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SEPTEMBER 21, 1927

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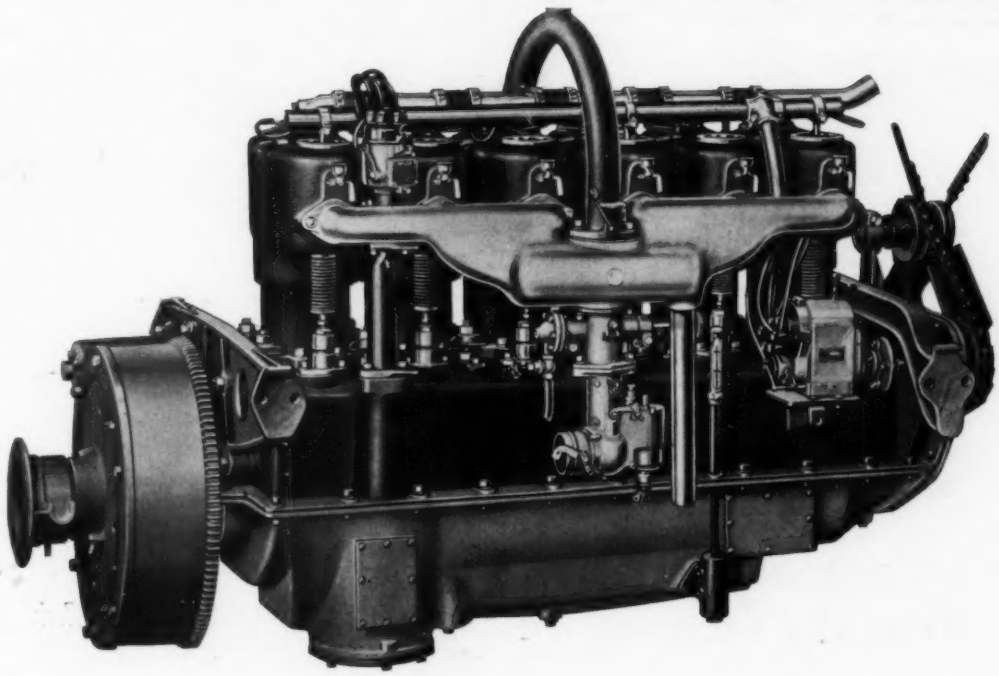

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*The Journal of the Fire Protection Profession Since 1877*

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# FIRE ENGINEERING

*A consolidation of* FIRE AND WATER ENGINEERING and THE FIRE ENGINEER

***Published Every Other Wednesday***

SUBSCRIPTION PRICE
U. S. $3 a year; Canada $3.50
Foreign $4; Single copies, 25c.

Issued at Lyon Block, Albany, N. Y.
by CASE-SHEPPERD-MANN PUBLISHING CORP.
Also publishers of "Water Works Engineering," Technical Books, etc.

**Executive, Editorial, Advertising and Subscription Offices, 225 West 34th Street, New York City**
All communications, including Editorial, Advertising and Subscription, can be directed to either of the above addresses.

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¶ Constructive restlessness, that constant striving for better things, has given us the wonders of the present age,—the radio, the telephone, the airplane and what not. And it's this same spirit, too, that helped make FIRE ENGINEERING what it is today and is going to keep making it better and better.

¶ Onward men! Let's make the most of this great life of ours.

*The Publishers*

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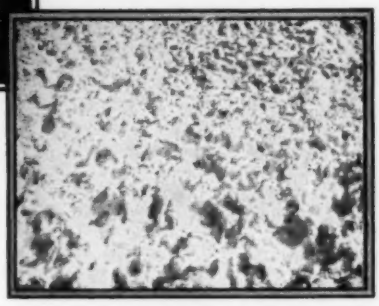

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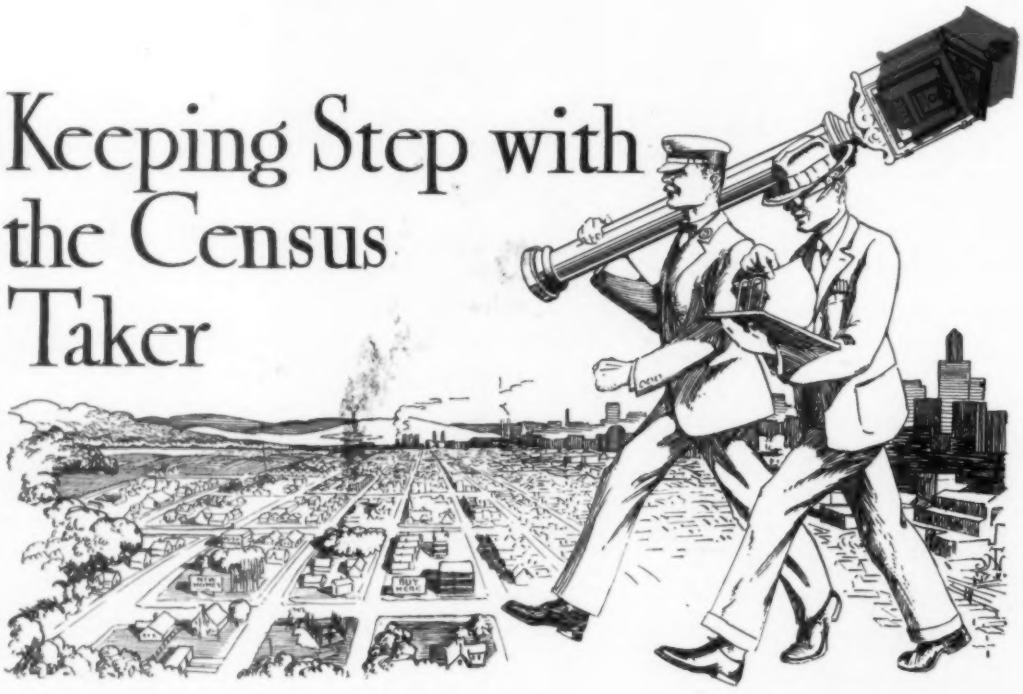

*Give a number to every street corner in your city which has no fire alarm box. Consider such corners as being equipped with "Phantom Boxes." When a telephone alarm is received transmit that number.*

**A YEARLY PROGRAM**

*By installing a definite number of boxes each year in the more important locations of "Phantom Boxes," you will soon have adequate box protection and the assurance that adequate protection will be maintained as the city grows.*

Building after building is erected; nearby communities are annexed; and hundreds of new faces appear on the streets—yet, in many cities the number of fire alarm boxes remains the same or increases but slightly from year to year. Fire alarms are on the increase while the percentage of box alarms grows smaller. The number of delayed and confused alarms increases as a result and the fire department struggles on under this burden. Is it at all surprising then, that the city's fire losses should mount?

The only way to keep your fire alarm system in step with the growth of your city is to establish a definite yearly box budget as a part of the "Phantom Box Plan." Few cities today have an adequate number of fire alarm boxes. For this reason, provision should be made in the budget so that the fire alarm boxes will increase more rapidly than the growth of your city until the "Phantom Box Plan" indicates that your city has sufficient boxes. Then, the budget can be readjusted to enable the system to keep in step with the census taker.

Wherever you find a city with nearly 100% box protection an investigation will also disclose the "Phantom Box Plan" in practice, backed by a definite annual fire alarm box budget.

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# FIRE ENGINEERING

(A Consolidation of Fire and Water Engineering and The Fire Engineer)

*The Journal of the Fire Protection Profession*

VOLUME LXXX SEPTEMBER 21, 1927 NUMBER 19


# Preparing Ahead for Major Disasters

## Comprehensive Plan of Los Angeles and Its Fire Department—Systematic Division of City's Resources to Provide For Great Emergencies


By CHIEF RALPH J. SCOTT, Fire Department, Los Angeles, Cal., Second Vice-President, I. A. F. C.*


*NO city can be sure of immunity from great disasters or calamities. Such a deplorable happening usually comes with no warning and when the city is least prepared to cope with it. The only safe way, therefore, is to be always ready to meet the emergency, whatever it may prove to be. The following paper deals with preparedness of this kind at all times by the city and its fire department:*

Chief Ralph J. Scott, Los Angeles, Cal.

Since the dawn of civilization the thoughts of man have been devoted to provision for the future, to create facilities to defend himself and his women from the attacks of enemies, to hoard food as a safeguard against the years of famine, and to build for himself shelter to guarantee his comfort during times of inclement weather. These manifestations of the human mind, we must admit, go back far beyond the dawn of history. Directly concerned with the individual, he has with his smaller subdivision of government, the municipality, provided himself with peace officers and given them power to restrain the acts of all; fire fighters whose duty it is to protect his life and his property from the ravages of one of his recognized enemies; health officers, also endowed with ample powers, to prevent the spread of disease; and a host of other municipal agencies, all intended to contribute to his greater comfort and his greater safety. In addition, he also insures himself as far as money can provide, against the contingency of injury to his person, damage to his property, or anything which can affect adversely his personal wealth or his earning or producing power. All these are accepted and general recognized manifestations of the tendency of the modern civilized man.

### Great Disasters Involve Destruction of Life and Property

Governments have only lately begun to conceive the idea that there are contingencies yet overlooked, which have great bearing upon the safety of society. Through all recorded history great disasters have occurred through natural agencies commonly termed the result of Acts of God, which disasters have in short and distressful periods destroyed the works of man and taken human lives by the thousands. Very many of these catastrophes have occurred within the recollection of men of this generation, all due to great natural causes, in which flood, fire, tornado, and earthquake are far in the lead. It will not be necessary for me to catalogue these events which come within memory. No nation or country has a guarantee of immunity from visits by these calamities. There is no city, section, or district which can consider itself in perpetual safety.

### Causes and Results

All of the recorded disasters due to the several causes above enumerated, have found the victims and their governments totally unprepared for the emergency created by them. In the wake of earthquakes there has followed fire; pestilence has followed the flood; tornado and fire have accompanied each other in a march of thorough destruction and at a time when governmental agencies were least able to cope with them. Fire fighting facilities were rendered ineffective by the destruction of water mains and sources of supply, transportation and communication facilities were paralyzed, food supplies were inadequate, medical attention was not to be had, clothing and shelter from the elements could not be provided. The loss of life and the total of suffering from the after effects of the disaster were often as great or greater than the loss that attended the disaster itself.

### Propose Program of Preparedness

When this came to the realization of civic leaders in the city of Los Angeles it was proposed to attempt a comprehensive program of preparedness which would render it possible to preserve order, supply food and shelter, and afford protection in an adequate manner to the citizens of our city even in the event of the worst catastrophe that could be imagined. This proposition first received the earnest attention of the Los Angeles Chamber of Commerce, and to A. G. Arnoll, secretary of that organization, must be given the credit for the perceptive vision and the effective capacity for organization that have made certain portions of this program a reality and brought other features to such a point that the completion of the program as herein outlined is guaranteed.

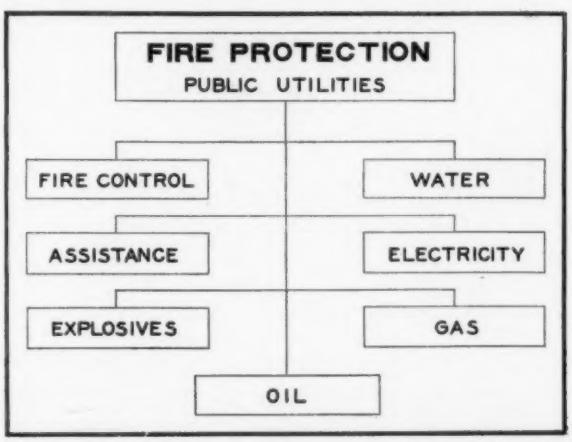



Fig. 1. Chart Showing Divisions of Activity of the Los Angeles Sub-Committee on Fire Protection and Public Utilities

* From a paper read before the annual convention of the International Association of Fire Chiefs at Portland, Ore.

Incidental to the efforts of Mr. Arnoll the program was classified and charted, finally assuming the concrete form that is graphically shown in the chart which accompanies this paper as Fig. 2. In this chart it will be noticed that the functions of the federal, state, county, and municipal authorities are centered in one body known as the preparedness committee on major disasters. From this general committee radiate sub-committees, each functioning under a competent chairman whose devotion to the idea has picked him out as a proper person upon whom to confer the responsibility. These committees are as follows:

Necessities of Life.
Medical, Health, and Sanitation.
Fire Protection and Public Utilities.
Transportation and Communication.
Law and Order.
Water and Streets.

The writer is chairman of the Fire Protection and Public Utilities Committee, and it is with the activites of this committee that this article will for the most part deal.

### Form of Organization

Under the able general chairmanship of Mr. Arnoll these committeemen have been required to function in the manner indicated by the importance of the project. It can be said that while certain agencies called upon by committeemen have been a little slow to realize the desirability—I might say, the necessity—of action, there is at the present time not one which has failed to make an adequate showing, and in the majority of cases their labors are practically completed.

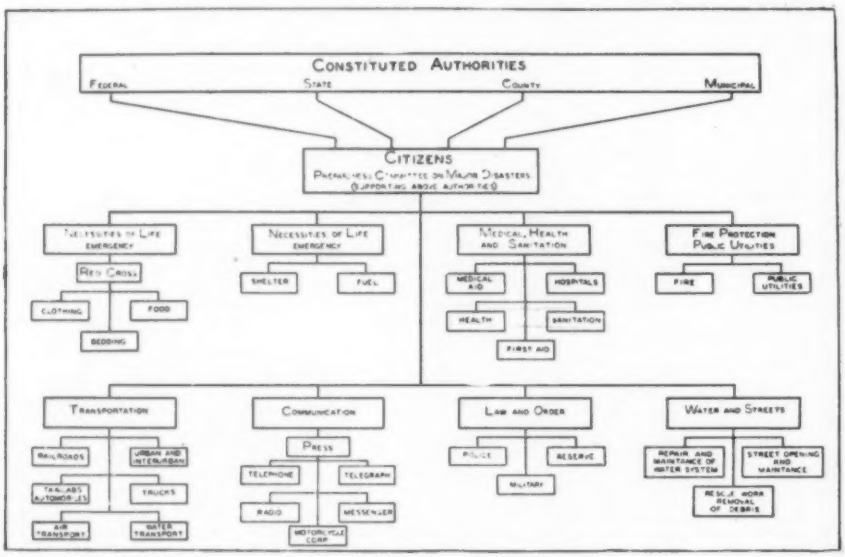



Fig. 2. Chart Showing the Divisions of the Los Angeles Preparedness Committee on Major Disasters

### Necessities of Life Committee

The first subdivision of activity listed under the General Commiftee, is that of Necessities of Life. It was soon found necessary to subdivide this classification into two distinct committees, one dealing with clothing, food, and bedding, the other dealing with shelter and fuel. The magnitude of this detail may be well imagined when it is remembered that we are attempting to make provision for a population of over one and a quarter million of people. Naturally, for the furnishing of clothing, food, and shelter, attention was first directed to the Red Cross, that worthy national organization which has functioned so indispensably in many great disasters where human distress made its appearance. The Red Cross furnishes the nearest approach to an organized relief institution; hence the Red Cross officials have taken hold of the idea with good will, and results now include the following: Location of sources of supply of clothing, bedding, and food from all accessible points, both within and without the city; investigation and cataloging of transportation facilities, for such necessities as food and clothing and bedding may be required upon very short notice, and one item may be just as important as the other in the relief of suffering, for it is not to be assumed that disaster will arrive always at an opportune season.

The most important sources of clothing supply have been charted and arrangements made for the quick removal of supplies to a place of safety in the event of emergency. This committee is in touch with principal manufacturers of clothing, both within and without the state and have on record the facilities of these factories for furnishing clothing on short notice, which includes stocks on hand and manufacturing capacity. The centers of food supply, such as cold storage warehouses, are known and listed, and arrangements made for cooperation to best protect these stocks if threatened. The sources of food supply extend far outside the city and even the state. In the matter of shelter the city has been divided into 14 districts and a suitable place of assembly provided in each district, each place being determined upon with due regard to emergency water supply, health and sanitation features, freedom from exposure, and communication by thoroughfares, telephone, and telegraph. The best possible preparations have been made to enable these areas to be quickly covered with temporary shelter of various kinds, in which the cooperation of tent and awning houses and firms manufacturing ready-cut houses, portable houses, and those dealing generally in lumber and buillding materials, has been secured. The furnishing of fuel for these areas has also been covered. Check has been made on all sources of available supply, with facilities for transportation to these areas, for it must be borne in mind that fuel may be as necessary as food and shelter in the relief of suffering, it being unsafe to assume that disaster may occur in midsummer, as, in fact, it is just as liable to occur in the dead of winter, when exposure would cause great suffering and loss of life.

### Medical, Health and Sanitation Committee

The Medical, Health and Sanitation Committee has to do with the organization of men of the medical and surgical profession, and the securing of agreement from them to co-operate with the constituted authorities. Also, the location and charting of all sources of supply of medicines and drugs, and all apparatus and materials made use of by this profession, with due regard to the protection and moving of supplies of this nature should the necessity arise, and the possibility of securing additional supplies, and in what quantity, outside the city. Hospitals, both within the city and in its suburbs, have been investigated and their maximum emergency capacity ascertained. An army of nurses may be called upon at short notice for emergency service. All possible steps have been taken to provide that, if the usual order of living is for any reason disrupted, the health of the people may be protected to the fullest extent. Strict regulations have been evolved to insure enforcement of sanitary measures.

### Transportation Committee

The duties of the Transportation Committee have been to catalogue and correlate all agencies of transportation, in and around Los Angeles. This includes the listing of locomotives and rolling stock of steam railroads, electric, urban, and interurban lines, looking forward to the possible emergency when great numbers of people and quantities of provisions must be transported quickly. Duties of this committee also include the chartering or commandeering of taxicabs, public passenger carrying vehicles, the listing of all air ports and flying fields, with lists of available airplanes and pilots, the listing of all commercial truck lines, urban and interurban; and, in short, all matters pertaining to the title, even including water facilities, as the time of arrival and departure of steamships which regularly enter our harbor has not been overlooked, as well as the listing of the passenger and freight carrying capacity of all craft in home waters. Even the lowly draft horse has been looked up and his available numerical strength ascertained. He may be called upon to carry the load when gasoline ceases to flow.

### Law and Order Committee

The Law and Order Committee has correlated the various agencies of police-municipal, county, state and federal. Officers of the police department are appraised of actions necessary to be taken in this sort of an emergency. Army and navy officers stationed in and about Los Angeles have, with the sanction of

(*Continued on page* 1092)

# Heading Off the Electrical Hazard

## How the Work of the Electrical Inspector Has Developed from Early Beginnings—The National Electrical Code

By W. J. CANADA, Field Engineer, National Fire Protection Association*

*THE following paper treats of the very important subject of electrical inspection in a practical and instructive manner:*

Forty-five years ago, when most of us individuals were quite young, and thoughtless or unthought of, fire prevention was getting its first acquaintance with electrical inspection. About 1881, the year I entered this vale of tears, a new phenomenon was engaging the attention of the fire prevention engineers of municipalities and underwriters. This was electric wiring for lights. Of course, no one except a few dreamers thought it was a practical thing. It did not at first supersede oil lamps, candles and gas—the flame devices—as a source of lighting even in those few buildings whose owners took a chance and installed "electricity." Disparaging statements were made by architects and the press. Electric lights were "unhealthy" "dangerous" "unchristian." The literature of that day is full of this disparagement. To the fire prevention engineer, electric lights did not replace or reduce any other lighting hazards. These remained. Electric lights were simply a new problem, a new hazard, an added one.

### Electricity Just Another Hazard

And fires did not fail to occur with alarming frequency. These first installations had no fuses. The size of wires was a matter of guess. The spacing of wires from inflammable building material and goods was not at first a known or observed precaution. The kind of wire covering first used was crude and subject to injury by moisture, heat, bending, etc. The first lamps were arc lamps and bits of incandescent carbon sputtered all about them. And, once wiring was in use, it was quickly overloaded because inadequate when first put in, a fault the code is only lately taking measures to prevent. And fires were a pretty inseparable accompaniment to this "dangerous agency"—as it came to be called—a name it took a good many years, and a good set of rules to live down.

The promoter of electric lighting blankly declared that only a few little things were necessary to avoid all trouble and what was a little trouble anyway, to compare with the delights of this fashionable new lighting method. The outlook seemed bad.

### The Early Work of the Electrical Inspector

The electrical inspector was then whom? He was the underwriter and the fireman. Both these men, by training and by experience, observed and recorded the actual causes of the high fire record of these early electrical installations and they reported these causes. Electricity was not in good order with them in those days. The underwriter demanded a larger insurance rate from the insured who used this experimental type of lighting in addition to his candles, gas and oil. The fireman demanded a switch (then called a cut-off) so that the wiring could be made dead when not in use, and it was then used but a few hours per day—it was a pet—a luxury. This switch the fire fighter could open in case of fire. And opening these switches was often very wise, on the part of the firemen in those days, because many of the early installations used high voltages or were frequently crossed with high voltage circuits and protective grounding was not even thought of. Grounding was supposed to be the bad thing which kept circuits from operating.

### Considering the Problem

Out of this early period of experimentation, exploitation, high insurance rates and by the earnest work of the great electrical inventors of a generation now rapidly passing, grew in course of time our present complete, complex, interior wiring installations, our highly specialized electrical inspections and our National Code. It is often well to sit back a bit, apart the turmoil of which we are daily a part, and ask ourselves a few searching questions. What, essentially, has been the nature of the changes in wiring? What, essentially, is our present problem? How, essentially, should we organize to solve this problem?

### Immensity of the Electrical Field

Very prominent to our first such detached view is the enormous present size of our problem. Electricity is no longer a toy, a partial substitute for a few other forms of energy. It is a giant. Looked at from the point of view of money invested, some twenty billions of dollars are now employed in the electrical equipment of homes, offices, shops, in the factories to supply electrical goods, in the power plants to supply power, in the organizations which distribute and store electrical goods and which do our wiring.

The electrical problem is a mighty problem. Again, looked at from the point of view of utility—electricity has by now not only displaced, as a safer, more economical, more convenient agency, all other forms of energy such as oil, steam, gas—for light, small heating and small motor uses, but because of its adaptability, electricity has gone into fields of usage and service never possible to other forms of energy, never indeed conceived of by man except in Arabian nights' dreams.

Today, electricity gives every person a score of hands instead of two;—as the engineer would say—it has enlarged the productivity of man tenfold. From a toy, or even a convenience, or a luxury, it has become a prime necessity. Our advanced stage of material civilization is built upon, and stands or falls by, the continued availability of our interior wiring installations, their equipment and the power supply for them.

Now what has been happening to fire prevention and the electrical inspector in the course of this miraculous growth of our indispensable electrical servant—our Jinn? Has the problem of fire prevention disappeared? Has the electrical inspector vanished or is he obsolescent? Looking on from our detached point of observation we can see that fire prevention is still a problem, the electrical inspector is still with us. Indeed never before has fire prevention been so great a problem—the inspector so vitally necessary.

### Wonders Fire Prevention has Accomplished

Is the fire prevention problem being solved? Yes, gradually, with many mistakes, much geeing and hawing from the straight path which we can see so clearly from our present fortunately detached position—our conning tower. Another question—is the electrical inspector fulfilling his obligation, performing his duty, meeting his responsibility to the public and to his own conscience—his two bosses? Yes, haltingly, often blindly, and with none too straight-forward, clean cutting strokes.

We are today absolutely dependent on our hard won fire prevention accomplishments of the past forty years and their maintenance and extension daily, for the happy fact that our homes, offices, and factories—our civilization on today's scale—can exist and continue. Fire prevention, electric-wise—no longer the aim and concern of fire underwriters and fire departments only, though originally directed and organized largely through them and through their engineering and governmental authority respectively—is now the recognized concern of every branch of the far flung electrical industry. This industry is a highly

* From a paper read before the annual convention of the Ohio Fire Chiefs' Association at Mansfield.

Fire prevention has done wonders. It has lowered the ratio of fires to amount of electricity employed in buildings from a dismayingly large one to a tolerably small one. If the ratio of forty years ago could *possibly* exist today our country's accumulated wealth in buildings and goods would burn to the ground during our next year.

organized one. The manufacturer, by mass production, produces safe goods cheaply in quantity. The jobber, by mass handling and by the uniform requirements in all communities, distributes quickly, in quantity, and cheaply. The electragist, by a known minimum standard of excellence for electrical goods and wiring methods, installs the needed amount and kind of wiring cheaply and safely. Sales-agencies, the country over, offer for sale only such electrical goods as conform to the known standards of excellence, and as are sure to be usable in their known proper places in proper interior wiring installations, from Maine to California—or indeed from Newfoundland to Alaska. The power companies insist on the simple, economical, safe, wiring installations which have no local peculiarities to prevent the ready and safe connection of the standard safe goods—each kind of installation depended upon by them to be that which is standard and safe for the location—the occupancy and physical conditions in which it is used.

### The Function of the Code

What binds all these agencies—manufacturer, jobber, contractor, power company—in one harmonious effort for safety and convenience in managing an art so complex, with so many minds at work? It is a code. Just as Washington in his farewell address, warned us that factions, if allowed sway, will ruin a free country; just as Lincoln said, "we need government of the people, by the people, and for the people"; so the electrical industry in all its branches has been putting its house in order, and has wholeheartedly repressed the individual's or the branch's biased desires and has turned to cooperation with the National Fire Protection Association in producing and constantly developing one National Electrical Code on which all could base their understanding.

By it the manufacturer can manufacture safe, simple goods in quantity, the jobber can distribute these everywhere, the contractor installs these goods, definitely, "where" they are suitable for use, the power utility is assured of safe, convenient, reasonably adequate and permanent wiring through which to supply electricity in a safely controlled and protected manner, to the public. And the public, ignorant of all this machinery, ignorant how dependent it is upon the maintained integrity, simplicity and support by industry, of this great cooperative program, sits, "each man under his own fig tree," in a millennium of tenfold increase in man's productivity and material welfare—dependent absolutely on the substantial correctness, definiteness, workability, and uniformity of application everywhere of this National Electrical Code. No other country has such a code. No other country has such complete and satisfactory and safe electrical service.

### Where the Electrical Inspector Fits In

Apparently you may say, fire prevention has already produced her perfect work. All is well. But where does the electrical inspector come in? Well, friends, we leave the best until last. We have drawn a fine picture of our real 1927 millennium of interior wiring comfort and dependability, under the code. But did anyone, here or elsewhere, ever know a piece of machinery, however perfect, to run smoothly without attendance, without a main spring, a balance wheel, an adjustment when daylight savings or some other change of the times occurs. And times do change. Electrically they change fast. The electrical inspector must serve all these, and many other purposes. He serves the great public as its one central, unbiased interpreter of the code, in the fact of, or rather to prevent, biased interpretations and applications by one branch or another of industry, or by one individual or another. A good, complete, clear code—and his duties, his opportunities for error are lightened. But there must be one head of the table, locally.

### How the Inspector Has Developed

In recent years the electrical inspector of forty years ago, like electric industry, has been developing—he is another man today. Formerly needing to inspect a few items—he now must inspect thousands of items per building—not only in an occasional building or in one building once for all, but in every building and many times as conditions change in its construction, its occupancy, the needs of its occupants. And today he must inspect hundreds of kinds of items, each different in its character, its peculiar hazards, its fitness in the electrical scheme of things. Electric installations are no longer small, simple, or stationary—no more than life is, and today electricity enters too intimately and necessarily into every process and aspiration of life to be simple. Electricity and its problems are legion.

As his art has changed, the demands on him have changed and the electrical inspector has changed. He is today a specialist. Today the fireman cannot incidentally inspect wiring. No more can the rating underwriter's inspector. The art demands an understanding, sympathetic, constructive handling by a specialist, every energy bent to a major task.

We decided, after getting our view of fire prevention and its code, electrical inspection and its needs,—to put our fingers on a few weak spots if we found them. If confession is good for the soul—and as our faults are known to others anyway, perhaps we will harm no one, but benefit everyone by admitting a few faults and pointing out a few remedies.

Well, we find electrical inspection, at times, still made by one city or another a mere adjunct of building inspection departments. This is usually unwise. It subordinates vital electrical considerations to men whose aims and understandings and problems do not—cannot—include adequate comprehension of the electrical problem. Electrical inspection under a public safety official, by theory and experience works out more advantageously to the public which wants this vitally essential service handled promptly and with thorough understanding.

### Necessity for United Action in Inspection

Then we find the electrical inspector too often inadequately supported locally in effecting the absolutely essential association of himself with other inspectors in inspection organization activities. If any one thing is today apparent as a failure of an otherwise competent electrical inspector it is his forced isolation from others, resulting in his immature, unwise interpretations and extensions of the code. Where interpretation or extension is really necessary, the code needs them in itself. Seldom are they done locally very well—never without unwarranted expense in partial attainment of a desired end. Often a real danger, unseen or unforseen, is introduced. Always a feeling of local commitment grows up which is inimical to uniformity and the healthy growth of the one code in all necessary directions.

The International Association of Electrical Inspectors is now—at long last—well under way. The great sectional branches, East, West and Pacific, are already formed. State chapters exist in a dozen states and are forming in several Canadian provinces. How can inspectors do their part in statewide affairs or how can

(*Continued on page* 1001)

**Fire in Subway Ties Up New York City Traffic**

Traffic on Eighth avenue in New York city was tied up for more than an hour while members of the fire department fought a fire which started from a short-circuited cable in the new subway that is in the course of construction. The photograph gives some idea of the vast amount of work incidental to the construction of the subways. All pipe at the street intersection is being carried overhead so that there is fourteen feet headroom for trucks to pass. The entire street is constructed of heavy planks while the construction work is going on, and this adds to the fire hazard of the section.

# Cover Exposures—Let Fire Burn

## Insufficient Streams Available to Extinguish It—Best Move Is to Cover Exposures Alone

THERE are times at fires where good judgment dictates the covering of exposures alone, and neglecting the buiding or materials which are ablaze. This would seem to be the situation in the fire described in the last issue of this journal.

This fire occurred in a city of approximately 35,000 population, having a department made up of four engine companies and one truck company. Three of the engine companies were equipped with 750 gallon pumpers while the fourth was equipped with a 500 gallon quadruple combination, including chemical tank, hose body and city service ladder equipment.

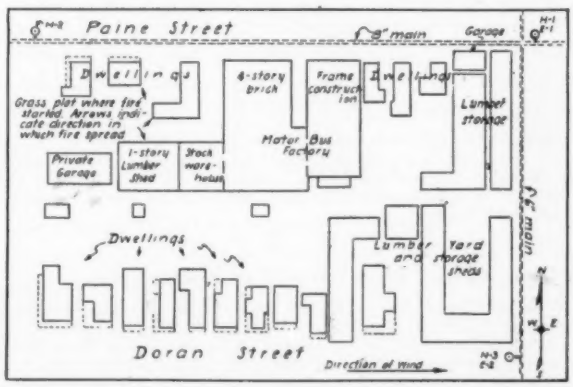
### Response to Alarm

Response to alarms in this city is as follows:

First alarm Engine Cos. Nos. 1 and 2 and truck Co. No. 1.

General alarm, Engine Cos. Nos. 3 and 4, the latter benig the quadruple combination truck.

The water supply in the neighborhood of the fire was




deficient, there being but one long eight-inch main and one six-inch main supplying three available hydrants. At the time of the fire a strong wind was blowing from the east.

### The Property Involved

The property involved in this fire, as well as surrounding buildings, is shown in the diagram herewith. The property directly affected by the fire included a lumber yard, three dwellings and a motor bus factory. The latter establishment was made up of several buildings in a group. The first of them, occupied as a warehouse, was of wooden construction throughout and four stories in height. It was occupied by storage of wood and metal parts used in the manufacture of automobile buses.

The large building, a four story affair, was occupied on the top floor by miscellaneous storage, including patterns and blue prints. Other floors were used for crating and storage of automobiles as well as offices. A portion of the ground floor was employed as a wood working room for manufacturing bodies for buses.

### The Fire

The fire started in a grass plot to the rear of the dwelling shown in the sketch, and just west of the plant. Fire reached the lumber pile which was soon ablaze and was extending to the adjacent dwelling when the alarm was transmitted. By the time the fire department arrived all three dwellings were ablaze and the lumber piles were burning fiercely.

The department concentrated its first two lines on the fire, one being operated with a 1¼-inch nozzle on the lumber piles and the other with a 1⅛-inch nozzle on the dwellings. No headway was made but instead fire reached the warehouse at the time the general alarm apparatus was put into service, and from this point on spread rapidly, involving the entire plant.

### Suggested Method of Handling Fire

Probably the one mistake in operating at this fire was the attempt to extinguish the fire in the lumber piles and the dwellings with such limited streams.

Even with all of the apparatus on its hands and the three hydrants being used to the maximum, it is very doubtful, in view of the wind blowing from the east, whether or not the fire could have been held with the very best of fire fighting.

For a department the size of that in this city and having such limited equipment and water supply, it would have been a much better and safer policy to let the lumber piles burn as well as the three dwellings, and concentrate all efforts toward covering the exposure to the west, which is the plant in question.

It is along this line that the suggested method of handling the fire will be directed. An eight-inch main should be good for four fair size streams even though the pressure were low, while the six-inch main should satisfactorily serve two streams, even if this main is dead-ended and of considerable length. No hydrant streams are to be employed, and three pumpers can be utilized on the three hydrants.

Assuming the fire is in the condition as stated in the description upon the arrival of the first company, immediately transmit a general alarm.

### Stretching Lines

In the meantime place Engine Co. No. 1 at hydrant No. 1 and stretch two lines, each with 1¼-inch nozzles to a position on the street just north of the dwelling adjacent to the warehouse. One of these lines is to wet down the dwelling while the other is to assist and cover the exposure of the warehouse as well.

Place the second engine at hydrant No. 3 and stretch two lines with the assistance of members of the truck company on the first alarm. Each of these lines to be equipped with 1¼-inch nozzles.

By taking a position behind the small shed shown south of the second dwelling involved, these two lines can operate effectively in covering the warehouse and preventing its ignition.

If necessary, but such seems unlikely considering the direction of the wind, one of these lines may be diverted to covering the lumber piles south of the burning piles. Members of truck companies can be utilized in patrolling these piles to see that they do not become involved.

Engine Co. No. 3, the first rolling in on the general alarm should be placed at hydrant No. 2 and two lines stretched, with the assistance of members of Engine Co. No. 4. Both of these lines should be equipped with

1¼-inch nozzles and should assist those lines operating on the dwelling adjacent to the warehouse as well as covering the warehouse. Send one of the lines to the roof of the warehouse to make sure that embers dropping thereon are not starting fire anew. This line may also wet down the roofs of the buildings to the west, from the point of advantage.

Have members of the Engine Co. No. 4 and of the truck company as well, if they are available, proceed through the warehouse and be on the alert for fire entering any of the windows. If the windows are open they should be closed at once, though it is very unlikely that they will be open due to the fact that the warehouse does not usually house any great body of workmen.

This layout of apparatus will give six lines of good caliber on the fire and allow sufficient men to manage each line. It is likely that the six lines can hold the fire from entering the warehouse as they have a good start in this work and have satisfactory pressure provided by the three engines.

## SAN FRANCISCO BAY FERRIES ARE PROTECTED AGAINST FIRES

**Specially Designed Monitors Placed on Upper Deck — Boats Have Major Parts Constructed of Steel — Have Electric Fire Pumps**

By CHARLES W. GEIGER

ALONG the Oakland and Alameda shores of the Estuary more than $5,000,000 worth of ferry boats have been constructed and placed in operation on San Francisco bay recently—this figure is another million dollars greater if San Francisco is included.

Four transportation companies built ten ferry boats, of which all except two were for automobile service.

At the Moore plant on the Oakland water front the "Yerba

**Upper Deck of "Peralta" Constructed for Key System Co.**

The arrow indicates the location of the monitor used to protect the upper part of the boat and nearby shipping. The monitor is connected to the ship's fire pumps.

Buena" and "Peralta" were constructed for the Key System Transit Company at a cost of $849,565 each.

In Alameda three automobile ferry boats, the Golden Bear, the Golden Poppy and the Golden Shore, each costing $370,000, were built for the Golden Gate Ferry Company by the General Engineering and Drydock Company.

At the same plant were also constructed the Santa Rosa and the Redwood Empire at a cost of $600,000 each for the Northwestern Pacific Railroad Company.

In the construction of these ferry boats, many of which were specially designed for carrying motor cars as well as passengers across San Francisco bay, freedom from fire hazard was provided by the use of steel as the construction material for essential members. On each pilot house of the Key System Transit Company ferries there has been installed specially designed monitors connected with the ship's fire pump system by means of which large and powerful streams of water can be thrown on to all parts of the upper decks or on to other vessels. Fire extinguishing appliances are further provided to fully comply with the requirements of the law.

Hull, bulkheads, bulwarks and decks are of steel. Wood appears only in the teak seats for the passengers and in the teak pilot houses. Sheathing, where provided, is of approved fire resistant material.

Fuel tanks, built integrally in the hull, are subdivided so as to be located opposite the fire rooms. There are two fire rooms separated from each other by the engine room. Fuel tank groups are separated from each other by fresh water tanks and the usual coffer dams.

The hull is divided by six main athwartship water-tight bulkheads into seven main water-tight compartments. These compartments are, respectively, No. 1 ballast tank, No. 1 motor room, No. 1 fire room, No. 2 fire room, No. 2 motor room, No. 2 ballast tank. There are also two longitudinal wing water-tight bulkheads extending from No. 1 motor room to No. 2 motor room, and between these bulkheads and the skin of the ship are located the fresh water tanks and the fuel oil tanks Thus located, the tanks furnish a double hull along the major portion of the boat's length on each side. Inasmuch as the hazard of collision is far greater than that of stranding, this double hull adds greatly to the security of boat and passengers.

Safe navigation is largely a matter of the personal equation. However, the arrangement of range lights, fog lamps and Sperry searchlights on steel tripod masts above the hurricane deck and aft of the pilot houses gives an excellent arrangement for maximum visibility. Complete control of the power plant and of either or both rudders from either pilot house affords maximum maneuvering capacity. The Sperry searchlights will provide light for operating the monitors at night, being arranged directly in front of the monitors.

Each of the ferry boats built for the Golden Gate Ferry Company have two fire and general service pump units, each consisting of one Northern rotary pump, capacity 180 gallons per minute against a discharge pressure of 100 pounds. They are mounted on a unit cast iron base with and driven through a flexible coupling by a 10-h.p. variable speed, direct current 115 volt, Westinghouse electric motor equipped with magnetic starter and field control.

## Alert Fire Inspector Saves Lives

It is believed that a possible loss of life was saved through the watchfulness of a fire inspector in Williamsport, Pa.

A building which in reality could be considered as three buildings under one roof was undergoing repairs to the extent of $300,000. The building consisted of the east and west wings and the center part; occupancy consisted of apartments and stores. Alterations to the west wing had been completed and the builders then started to work on the east and central portions. Tenants from the east portion moved over to the west wing before the fire escape was erected.

This was discovered by a fire inspector and the owner was notified that the procedure of living in that section without fire escapes was against the law. In accordance with the inspector's instructions, the fire escape was completed. On the eleventh day after the notice was given, a fire occurred which destroyed the entire building.

Had the fire occurred before the fire escape was completed, there would have been considerable loss of life. This incident is taken by the state officials to prove the importance of public officials insisting on the proper safeguards to life and limb.

## Fire Station to be Chief's Memorial

The new fire station that will be erected soon in Salina, Cal., will be a memorial for the late Chief Julian P. Nichols, head of the department for many years.

The station will embody the latest ideas in fire house construction and will be a monument to a man who did a great deal to develop an adequate fire department in Salina.

It is expected that actual work on the new station will be started at once.

**Denver, Col., Firemen Promoted**—Two lieutenants in Denver, Col., have been promoted to captain and eight firemen to lieutenants. In addition fourteen men have been added to the fire department.

# WITH THE EDITOR

## Importance of the Quick Get-away

An interesting test was that conducted at Columbia, S. C., in which the men, under command of Chief A. McC. Marsh, stood fourteen feet from the truck, and at the sound of the gong, cleared the door aboard the truck in six and three-tenths seconds. This was just three-tenths of a second slower than the record held by the Washington, D. C., Fire Department, for a quick get-away.

In another test, conducted just previous to the official one, the men of the Columbia Department started from their upstairs quarters, using the sliding pole, and the get-away was accomplished in nine and one-fifth seconds.

These accomplishments are valuable in showing what can be done in this important respect. The quick get-away on the receipt of an alarm of fire is of the utmost necessity. Promptness in this regard may mean the difference between an insignificant blaze and a fire beyond control. It may not always be possible, in cities with congested traffic, for the fire apparatus to maintain a uniformly high speed in passing through the streets, and therefore every second in the answering of an alarm counts, and prompt get-away may compensate for delays in transit to the scene of the fire.

Another indirect benefit which the uniformly prompt and quick get-away may produce is the effect upon the men in keeping them alert and "on their toes" when an alarm calling for their services may sound. If the habit of sharp action in taking their places at the tap of the gong is inculcated they will automatically drop into position without delay when the occasion arises. Thus drills and contests of this kind are of considerable value and can be employed to advantage by chiefs in increasing the good work of their departments.

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## Unburnable Wood Construction?

It was quite natural that the lumbermen should make some move to counteract the tendency to reduce the extent of frame construction and the use of inflammable materials in building construction in general. This move has taken the form of an attempt to produce non-burnable lumber.

Formulas for the rendering of lumber and wooden building materials fireproof are not particularly new. Attempts more or less successful have been made for several years to produce some such process or method, but as yet it has not been entirely demonstrated that such processes are of a lasting nature. And if not, they are worse than useless, in that they would produce a false security that, in case of their eventual failure, when the fireproofing effect should have disappeared, would result in a fatal carelessness on the part of the owner or tenant of the building involved.

Time alone can prove the lasting effects of processes purporting to render wood non-burnable. Naturally such a process, if entirely successful, and permanent, would be an invaluable boon to mankind. As yet, no system of building has been devised that is alike so cheap and so flexible in design and coloring, as that of frame. If to this could be added the quality of absolute fire resistance, wooden construction would be ideal for the smaller and residential type of building. But, until this is accomplished, the menace of fire—and of conflagration, where large groups of frame structures are concentrated—will be a bar to the extended use of wood in buildings in large cities.

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## Protecting High Buildings Under Construction

What might easily have been a repetition of the Hotel Netherlands fire, the highest blaze that New York City has ever experienced, occurred on September 6, in the new Park Avenue Building, when firemen were compelled to climb thirty-one stories to reach a small blaze among some wooden scaffolding. Tar paper on the scaffolding had become ignited through a short circuited wire, and the blaze was communicated to the timbers.

A lively blaze was in progress when the weary firefighters reached the thirty-first floor, but the standpipe was in working order, and they made short work of the blaze once they were on the spot.

The cause of the firemen's gruelling climb was that the short circuit had put the elevators out of commission, and there was no other way to reach the great height but to foot it.

This fire, small as it proved to be, again brings to the fore the subject of high buildings under construction, and the safeguards which should be thrown around them. It particularly emphasizes the necessity for some regulation compelling the elimination of flimsy and inflammable wooden scaffolding at such great heights, and enforcing the use of metal in such temporary work. This was clearly demonstrated in the Hotel Netherlands fire, in which the blazing false work burned practically uncontrolled for hours, owing to the inability of getting any water upon it.

The dangerous possibilities of such a fire were at that time graphically shown. When out of control, not only does it mean at least serious damage and perhaps destruction to the building upon which such flimsy

framework is placed, but also a fire in wooden scaffolding at such a great height places the lower buildings in its neighborhood in great jeopardy from the blazing planking falling upon their roofs and windows.

Beyond this there is also the very great peril to persons in the street, including the members of the fire department who are working below, from the blazing missiles falling from so great a height. Such burning planks and beams may fall over a considerable radius, carried by a high wind, and constitute a very serious menace.

In this later high fire, the standpipe was in working order and available for the uses of the firemen, which accounts for the quick control of the fire. This again emphasizes the necessity for the installation of the standpipe floor by floor, as a building is erected, so that it will be readily available for the uses of the fire department in case of a blaze. In order to be serviceable, it must be properly capped.

However, all such hazards in new tall buildings would be largely removed by the use of non-inflammable scaffolding and falsework.

## Chief Carter Resigns Post

Peter B. Carter, chief of the fire department at Collingswood, N. J., and formerly head of the department in Camden, N. J., has resigned from his post in Collingswood. Chief Carter's resignation followed a controversy with the borough officials who insisted that he move his residence from Camden, where he now resides, to the Collingswood borough limits. This is the only cause that has been made public for the trouble which has arisen.

Chief Carter left the Camden department on April 1, 1926, to be placed on a pension and to go to Collingswood to reorganize the fire department and to institute a semi-paid department.

Peter B. Carter

The borough officials were well satisfied with the work of Chief Carter and said that he accomplished fine things in his work of reorganization.

Chief Carter has always taken an active part in the affairs of the International Association of Fire Chiefs. He has been treasurer of that organization for a number of years, and has been conspicuous at the various annual conventions.

## Climb 31 Floors to Fight Fire

History repeats itself, and so in a small measure, the story of the Hotel Netherland fire in New York city was repeated when firemen had to climb thirty-one floors to reach a small fire in a thirty-four story hotel in the course of construction in New York city.

Fire was caused by a short circuit in a generator and necessitated the shutting off of the power used to run the elevators. Firemen had to walk up the stairs.

The short circuit ignited tar paper on the nearby scaffolding and the flames spread to the timbers. Hose attached quickly to the standpipe soon extinguished the blaze.

**Pumper Delivered to Avoca, N. Y.**—A Sanford pumper has been delivered to Avoca, N. Y.

## Columbia, S. C., Makes Low Record

Six and a fraction seconds is the time made by the Columbia, S. C., department for the engine to leave the fire station from the time the gong struck. This time was but three-tenths of a second more than the record established by the crack company of Washington, D. C.

The members of Columbia who participated in making the low time will have their expenses paid by the department to the firemen's convention next June in Rock Hill, S. C.

The test was conducted in accordance with the rules established by Washington, D. C., and are as follows:

The back end of the truck must be thirty-nine feet back from the front door.

The driver must be fourteen feet back from his seat.

All members of the company must be back of the fourteen-foot line.

Chief A. McC. Marsh

At the stroke of the gong members of the company will take their respective places and the motor started; the required distance must be made in as quick a time as possible. The time is taken from the stroke of the gong until the rear end of the truck has cleared the front door sill. Each company will have only one trial.

But before this test was made, Chief A. McC. Marsh arranged a more severe test. In this test the men started from their quarters on the floor above and had to slide down the twelve-foot brass sliding pole. In this test the time was 9 1/5 seconds; in the test made in accordance with the Washington rules, the time was 6.3 seconds.

## Red Cross Aids Fire Fighters

When a disastrous forest fire broke out in a Massachusetts town recently the Red Cross, assisted by Boy Scouts and other local agencies, subdued the flames after a hard struggle. The blaze had a mile frontage and swept through the tinder-like woods and underbrush at such a rate that only the plucky and persistent efforts of the volunteer fire fighters held it in check. The fire took place near Townsend, Mass., and before it was put out, swept over 28 square miles of wooded land, leaving blackened soil and smoking ruins of buildings in its wake.

It started late at night and spread so rapidly that by the next day neary 3,000 volunteers were enlisted to fight the flames. All the civic organizations took part. The Boy Scouts, because of their youthful activity and outdoor training, performed prodigies of dangerous and thrilling work. The Red Cross set up a canteen and supplied the firemen with coffee and food.

Trucks and automobiles were used to carry food to the men fighting in the front line against the flames. Spread over a front miles long it was only by organization and cooperation of the highest quality that the fire was confined to a twenty mile area. The Boy Scouts were among the first to volunteer and the last to quit. It is by such episodes as this that the American people are made to realize that their Red Cross is available in the hour of need. Whether the disaster be large or small the Red Cross stands ready to provide relief.

This year the eleventh annual membership roll of the National Red Cross will be held as usual from Armistice day through Thanksgiving day, Nov. 11-24, thereby affording the American people a nation wide opportunity to endorse their Red Cross and insure the maintenance of its service.

**Highland Park Mich., to Remodel Station**—The fire department headquarters in Highland Park, Mich., will be remodeled at a cost of $50,000.

**Brackenridge, Pa., Awaits Pumper**—Brackenridge, Pa., is expecting the delivery of their new Seagrave pumper recently purchased.

# QUESTIONS AND ANSWERS

Conducted by FRED SHEPPERD, B. Sc., M. E.

*"He that questioneth much shall learn much"*—BACON

**NOTE—Readers of FIRE ENGINEERING are invited to send in questions, which will be answered in the order received. Names are omitted from questions unless otherwise specified.**

## The Better Method

On page 1257 of the December 10, 1926, issue of FIRE ENGINEERING reference was made to the New York Municipal Civil Service Commission method of marking hydraulics questions which appeared in the last lieutenant's examination. The Commission gave less credit to a candidate who used the formula "Engine pressure is equal to nozzle pressure plus friction loss" than to those who used the Underwriter's formula in determining the engine pressure.

In view of the fact that an examination for promotion to fire captain is about to be held in New York, it may be helpful to candidates in that examination to state why the Municipal Civil Service Commission gave less credit for the use of the former formula in problems in which friction loss is not necessarily calculated.

The formula used for determining friction loss gives only approximate results—a condition experienced when using most empirical formulas. As an example, attention is called to the first two solutions of a problem given on page 803, issue of January 27, 1927, of FIRE ENGINEERING. The answers are not exactly alike. When the difference is considerable, such as in the problem solved in the December 10, 1926 issue, (where it was 6 pounds, or nearly 4½%) it would seem wiser to use the formula which gives the more accurate results. That formula, used in determining engine pressure when the nozzle pressure is known, is the Underwriter's formula.

There seems to be one slight inconsistency here but the Commission chose the path which would seem to be fairest. Here is the inconsistency: In solving for friction loss in a line of hose where the flow is known and the length and diameter of line given, full credit is allowed for the use of the formula: Friction (per 100 feet of 2½ inch hose) equals $2 \times Q \times Q + Q$, where Q is the "hundreds of gallons" flowing. Now when a layout is considered which is horizontal, the nozzle pressure plus the friction loss in the line gives accurately the engine pressure under these conditions. But where the friction loss is determined by the formula as given above, and even though this formula is given full credit in solutions of problems in which it is necessary to employ it, the New York Commission allows additional credit for employment of the Underwriters formula in determining the engine pressure rather than employing the friction loss formula and adding the friction loss so found to the nozzle pressure. As noted above, this additional credit is given in view of the fact that the results secured by the Underwriter's formula are a little more accurate.

In support of their contention the Commission calls attention to three formulas commonly used:

1. $N.P. = \dfrac{E.P.}{1.1 + K\text{-}L}$

2. Discharge $= 30\, d^2 \sqrt{N.P.}$

3. E. P. = N. P. + Friction loss. Reference to these formulas shows that N. P. varies directly as the engine pressure (1), that discharge varies directly as the square root of nozzle pressure (2) and therefore as square root of engine pressure (1). Since engine pressure is always greater than the nozzle pressure it is evident that as the engine pressure increases, the increase in friction loss must be (not uniform) but, (accelerated) (3).

Now refer to the table of friction loss as given in the Underwriter's Red Book. For 3 inch hose the friction loss increased from 3.9 pounds at 200 gallons flow to 14.1 pounds with 400 gallons flow; or 10.2 pounds increase in friction loss with 200 gallons increase in flow. But the increase in uniform at the average rate of 1 pound for 20 gallons. On the contrary the increase in friction loss, when the flow changes from 200 to 220 gallons is only .7 of a pound, while the increase from 380 to 400 gallons flow causes an increase of 1.3 pounds in friction loss, a rate approximately two times as great.

But actual tests show that the conclusion theoretically drawn in the preceding paragraph is correct.

The Commission also calls attention to Special Order 226 of the Fire Department dated December 14, 1915, which gives the method for computing friction loss which was in general use in the department. This method assumes average uniform (not accelerated) increases in friction loss with increases in flow (and therefore in engine pressure). Full credit is given for this method of computing friction loss.

But the later method commonly employed, that of using the formula stated above, friction loss (per 100 feet of 2½ inch hose) $= 2 \times Q \times Q + Q$ is much more desirable and gives accelerated results. Incidentally full credit is also given for this latter method of calculating friction loss.

The commission points out that when a candidate, who is given either engine pressure or nozzle pressure (together with size of nozzle and size and length of hose) and who is asked to compute the other pressure, first calculates the friction loss and adds it to (or subtracts it from) the pressure given, it is felt that he has unnecessarily introduced into the working of the problem a method that brings results either too large or too small in the majority of cases. Hence the Commission believes that the candidate who used the Underwriter's formula in such problems deserves additional credit and such is given to him.

In view of the fact that full credit is given for the method noted above in solving for friction loss—that is, the results so secured are considered satisfactory—and in view of the fact that the engine pressure is equal to the sum of the nozzle pressure plus friction loss in the line when the line is laid horizontally, it seems inconsistent that full credit should not be given to this latter method when solving for engine pressure—having nozzle pressure given and friction loss determined by a formula for which they give full credit. However, the very fact that the use of the Underwriter's formula gives a little more accurate results justifies the Commission in their opinion in giving greater credit for the use of the latter method.

Hence, candidates working hydraulics examination questions are urged to employ the Underwriter's formula in solving for engine pressure or nozzle pressure instead of adding or subtracting, as the case may be, the friction loss in the line of hose from the pressure already known.

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## Spontaneous Combustion

*To the Editor::*

Having recently purchased your valuable books I would like to call your attention to one of your solutions.

I have no desire to debate with you, as this is your profession and I a subordinate, having achieved some knowledge in studying your issues during my leisure time, which I feel will be a great benefit to me.

The solution I have reference to is contained in your supplement on "False and True Question" of your book "Questions and Answers for Lieutenant and Captain," and, may be an error on the part of the composers. I would therefore like you to straighten me out as I am greatly perplexed.

You state that if in the analysis of a question the candidate can determine a single exception to the statement it must be classed as "false."

The question reads: "Rags and waste, saturated with petroleum oils such as kerosene, gasolene and naphtha are not subject to spontaneous combustion."

Your answer is "true."

Now I cannot possibly agree with you, as after I analyze the question thoroughly I find more than one exception which makes the answer "false." Then again by giving you the benefit of the doubt, I think the question could be answered either way, and the candidate doing so should receive credit for it. I might term your solution a two-way question and not fair to the candidate.

I will indeed appreciate your courtesy if you will enlighten me on the above.

Yours respectfully,

H. K. C.

Answer.—The answer to the question you refer to is true.

Petroleum oil such as kerosene, gasolene and naphtha are not subject to spontaneous combustion and hence rags saturated with these oils are not subject to such.

Unless these oils are in their pure state the above would not apply. Around machine shops for instance, mineral oils are employed but where there is also a percentage of vegetable or

animal oils such as goose grease, spontaneous ignition will readily occur in rags saturated with a mixture of these oils. At ordinary temperatures mineral oils in their liquid state have no affinity for oxygen, which explains their backwardness in producing spontaneous ignition. Also, it should be pointed out that moisture tends to promote spontaneous ignition and if oils are present with moisture in rags such ignition may be expected. However, the question as answered is substantially correct.

## A Mysterious Explosion

*To the Editor:*

I am sending herewith some newspaper clippings which have reached me and wish you would check them over and give your opinion on what caused the chimney to explode. Have you ever heard of a case similar to this? We'll be looking for your answer in the "Questions and Answer" Department of FIRE ENGINEERING.

Yours truly,
R. J. COOMBS, Antietam Fire Co.,
Hagerstown, Md.

Note: We do not believe that carbon monoxide caused the explosion.

(The Newspaper Story)

MRS. GOUKER IS A VICTIM EARLY TODAY

Gas accumulating in chimney explodes, wrecking end of residence.

"Mrs. Mary Gouker, 45, wife of William Gouker, 751 South Potomas Street, was instantly killed at 5:30 o'clock this morning when the kitchen chimney in her home exploded. Her skull was crushed by flying bricks.

"Mrs. Gouker was preparing breakfast and probably bending over the kitchen range at the time of the terrific blast. Mr. Gouker was just entering the kitchen door from the backyard and was knocked down by a brick hitting him in the stomach. He suffered numerous cuts and bruises from flying chips, plaster, etc. Rushing inside he found the body of his wife among the debris.

"Leo Gouker, nine-year-old adopted son of the couple, was sleeping in the room directly above the kitchen. He was knocked from his bed and almost buried beneath bricks and plaster. He escaped, however, with a cut on the face. The lad was later taken to the home of Mrs. Luther H. Bair, 339 North Mulberry Street, a sister of Mr. Gouker.

"The Goukers moved to Hagerstown from Myersville, Frederick County, just a short time ago, Mr. Gouker obtaining employment at the Moller Organ Factory. They occupied four rooms of the home of Mrs. Annie Lewis, who was in the back yard at the time and was struck on the leg by a brick.

**Chimney Shattered**

"The explosion was heard for blocks and besides completely wrecking the chimney badly damaged the whole rear part of the house along with the interior of the Goukers' side. Whole sections of the weatherboarding were pushed out, doors blown off and windows completely blown out. Not one brick of the chimney remains, they being scattered within a radius of nearly one hundred feet.

"Many opinions as to the cause of the explosion have been advanced, but the most probable is that it was due to gases from the wood fire in the stove accumulating and then exploding. The kitchen stove was not damaged in the least, the lids not even being disturbed

"The damage to the house is similar to that caused by the terrific explosion of illuminating gas at a North Mulberry Street home several months ago.

"Judge Richard Duffey, acting coroner, visited the scene and after hearing the particulars decided an inquest unnecessary."

**Other Data**

In addition to the information in the above clipping, subsequent investigation showed that just prior to the explosion a thick column of smoke was slowly pouring from the chimney. At the time the explosion occurred the atmosphere was very humid which lead the authorities to believe that gas was formed in the chimney, which was stopped up except for a small vent through which the smoke passed. They believe this hole was finally closed and that then the gas had no outlet and continued to form until the heat from the stove set off the blast.

*Editor's Comment:* The remarkable thing about the explosion was the fact that the lids of the stove were not disturbed by it. It stands to reason that if unburned gases were being given off by the fire in the stove, these gases would be continuous from the stove up through the chimney. If the gas in the chimney exploded the flame would be propagated back into the stove and certainly the lids would have been blown off. On the other hand it is possible that air entered the chimney above the stove and furnished oxygen necessary for complete combustion. If this were the case then the gas in the stove itself and in the stove pipe leading from the chimney might be too rich to explode or burn in view of the fact that incomplete combustion was taking place in the stove through the absence of insufficient supply of oxygen. If there were an opening in the chimney through which air could enter at some point above the stove (for instance, at the port where the stove pipe entered) then it is possible that unburned gases might have caused the explosion. Gas and fume explosions are mysterious things in that they sometimes produce unaccounted for results. There would be plenty of force behind an explosion of unburned gases from a wood fire to burst a chimney.

In view of the absence of specific details any suggested cause for the explosion would merely be a conjecture. Had there been no cause for maliciousness, such as placing explosives in the chimney, and had the stove been used over a considerable period of time prior to the explosion, all indications would point to carbon monoxide or other unburned gases as the cause of the explosion.

## Answering Outside Calls

*To the Editor:*

Recently we had a fire and some of the members of the department, including myself, got into an argument as to the limits of a city fire department.

This fire occurred in a packing house plant three and one-half miles beyond the city limits or in the country.

I said that the fire chief could go as far as the city limits and stop; he was not required to render any services. If he did, it would be a matter of courtesy.

B said that it would be compulsory for the fire company to fight the fire.

I said the chief could charge whatsoever he saw fit providing that it was a reasonable charge for each of the fire trucks used. The fire occurred in territory outside of the limits and owners did not pay the city tax.

B said that they could not collect it. Now who is right?

Very truly yours,

A. M.

*Answer:* The question that you brought up is an interesting one but which has been debated in a number of fire stations.

The fire department of a city is not required to handle any fires beyond its limits. It may do so, however, as a matter of self defense where a fire just outside of the city limits is hazarding the property.

Or it may respond as a matter of courtesy to fires outside of the city limits. In the latter case, the fire department can render a bill for their services but unless the question of cost of extinguishing the fire was considered beforehand there may be some discussion as to the amount to be charged.

Most fire departments have a scale of charges for operating outside of the cities depending upon the members or the pieces of apparatus, the number of men and the time operating.

You may rest assured that where a bill within reason is presented to a concern outside of the city limits for fire fighting service, the bill will be gladly paid. Otherwise the fire department would take it upon itself not to respond to future calls for help.

It is generally construed that where an establishment outside of the city asks for help from the city, that that establishment is willing to pay. Otherwise they would not make the request.

On the other hand if a box alarm is sent in for a fire outside of the city and the department responds without a direct request from the owner or his agents, the department could not very well submit a bill for sevvices. They could suggest it but the parties benefited would be entitled to do as they please insofar as paying for the services are concerned.

**Toledo, O., Planning for Fire Prevention Week**—The Toledo, Ohio, safety council is planning an effective observance of Fire Prevention Week October 9-15.

**Melvindale, Mich., Installs Fire Alarm System**—A Harrington-Seaberg fire alarm system has been installed in Melvindale, Mich. The system consists of twenty-seven fire alarm boxes.

**North Attleboro, Mass., May Have New Station**—The committee in North Attleboro, Mass., appointed for that purpose, reported favorably on the plan to erect a new fire station and recommended that about $50,000 be set aside for its construction.

# FIRE IN FURNITURE WAREHOUSE GROWS TO FAST 3-ALARM BLAZE

**Entire Building in Blaze When Toronto, Can., Firemen Arrive—Roof and Various Floors Collapse Until Just Walls Remain**

By JOHN KARL LEE

WHAT was believed to be the most intense and fastest burning fire, destroyed the three to five story warehouse of the Canada Furniture Company in Toronto, Canada. Fire was discovered by an employee who was operating the elevator in the rear of the building. Finding the place on fire, he descended to the ground floor and sounded the alarm at 12:47 p. m.

This alarm brought one triple combination pumper, four hose and chemical trucks, one city service truck, one aerial ladder,

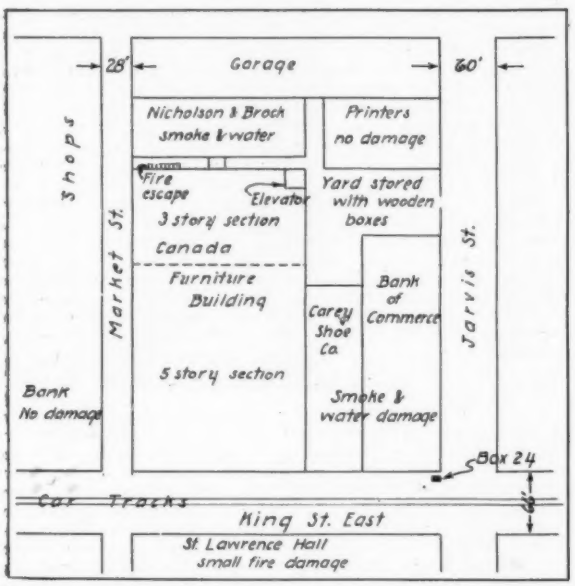


**Diagram of the District About the Furniture Warehouse**

one salvage car and an emergency car of the gas company. Chief Russell and Deputy Chief McClain responded. When they arrived they found the whole building burning from top to bottom and the flames shooting across King street—it set fire to the old historic St. Lawrence Hall and Market. Chief McClain transmitted a second and a third alarm.

The additional calls brought out Deputy Chief George Sinclair who was then off duty, nine triple combination pumpers, two combination hose and chemical cars, two city service trucks, one high pressure wagon, one water tower and four aerial ladders. Never before in the history of the Toronto department had a second and third alarm been sent in with such rapidity after the first alarm response.

Forty minutes after the first sections arrived, the fire was considered under control. Chief Russell and Deputy Chief McClain attribute this to the valuable aid of the high pressure streams used on the King street side. Twenty-five 2½-inch lines were used from the ten pumpers; four 1½-inch lines operated from the Bank of Commerce building prevented the fire from jumping across a ten-foot alleyway which separated the furniture building from an adjacent factory. Heat from the fire broke windows nearby.

For over two hours, firemen and policemen were trying to learn if any lives were lost. Since the fire occurred during the noon recess, only three people were in the building. A baby in a carriage near the warehouse received slight burns—this was the only accident reported.

Nine minutes after the first section of the roof caved in, floor after floor started to fall until nothing but the four walls remained. Falling cornices tearing down overhead wires, put a section of the fire alarm system out of operation. Street traffic in the vicinity was closed for four days until the remaining walls were pulled down. Fire Marshal Heaton is investigating the cause of the fire.

The equipment used at the fire was as follows: 9 750-gallon triple combination American-LaFrance pumpers, 1 900-gallon triple combination Gotfredson Bickle pumper, 2 White hose and chemical cars, 4 American-LaFrance hose cars, 2 Seagrave high pressure hose cars, 5 American-LaFrance 85-foot aerial ladders, 3 American-LaFrance city service trucks, 1 water tower, 1 Kelly-Springfield salvage car and a White emergency car from the gas company.

## Many Acres Burned by Forest Fire

Fire which started in the San Antonia canyon near Pomona, Cal., destroyed 1,200 acres of forest land and caused a damage estimated at $1,165,000.

Residents of the valley were up all night watching the light of the flames. Three hundred men composed principally of fruit pickers and orchard fumigators with some members of the Los Angelies county prison camp were on the fire line battling against the advance of the flames.

Twenty-six cabins in Bartlett canyon, the Stoddard canyon resort and a few other isolated cabins were threatened for a time but escaped. Changes in the wind aided the forest-fire fighters.

For a short time the entire watershed of the San Antonio canyon was threatened. The water shed covers an area of 15.3 square miles. The fire was the first in the San Antonio canyon section since 1918—at that time severaal hundred acres were burned over.

## Urges Charge for Fire Calls

City Manager John Edy of Berkeley, Cal., has requested his city attorney to look up State and municipal laws to determine whether or not it will be permissible for him to enforce an ordinance compelling those who have fires to pay a part of the cost of extinguishment.

Edy said that an examination of the fire department report shows that the cost of sending the department is $227.32 for each fire although the average loss per fire is only $67.79. While he does not advocate that each person sending in an alarm be charged the full $227.32 he says: "It seems to me that the citizens of the city should pay a portion of the cost for the standby protection they have. I think we should divide the cost between the citizens and the people who use the service."

However, comment has been heard disapproving Manager Edy's theory, one daily newspaper saying in part:

"At present people call out the fire department when they discover small fires. The department comes and stops the fire. If they had to pay about $50 for ringing an alarm many people might say, 'I'll save money by putting out this fire myself,' and many a little fire might become a big fire that destroys the thrifty man's house and his neighbor's as well."

GUY C. MACDONALD

**Snohomish, Wash., Opens New Fire Station**—The new combined fire station and jail of Snohomish, Wash., has been opened and the public have been invited to inspect the new building. Firemen were stationed there to show the public about.

**Firemen Fighting the Fire in the Canada Furniture Company Warehouse in Toronto, Canada**

## WHAT'S BURNING

**THE following list includes fires of $25,000 loss and over in the United States and Canada, for the periods designated in the headings. These figures, compiled from telegraphic reports, are based on estimates made at the time, and are subject to later investigation and consequent revision. Taken as a whole, however, they give an approximately correct view of the losses incurred. The figures represent loss in thousands.**

### Week Ending Sept. 9

GRAND LEDGE, MICH.—Briggs Brothers Brick Plant..... 80
LADNER, B. C.—Planing mill of Ladner Lumber Co..... 170
FROST, TEX.—Cotton oil mill destroyed..... 65
BAY ST. LOUIS, MISS.—Business block destroyed..... 100
PALM BEACH, FLA.—The Montmarte night club destroyed... 80
WAUKEGAN, ILL.—Central Hall Hotel and business block.... 400
EVANSVILLE, IND.—Upholstery factory destroyed..... 40
LOUISVILLE, KY.—Warehouse of G. F. Korfhage Co..... 25
SOUTH PRAIRIE, WASH.—Mill of S. Prairie Lumber Co..... 80
OAKLAND, MISS.—"White Oaks", residence of W. K. Black.... 35
WEST POINT, MISS.—Plant of West Point Coca Cola Co..... 40
POTTER, MO.—Several business establishments destroyed..... 25
NEWTON, N. J.—Plant of Columbia Refrigerator Co.....125
FOSTORIA, OHIO.—Union Stock Yards damaged..... 80
SNYDERVILLE, PA.—Real Inn destroyed..... 80
COLUMBIA, GA.—Residence of Peter Gargett destroyed..... 25
BOSTON, KY.—Five bldgs. including L. & N. R. R. station.... 200
BRIDGETON, ME.—Central Garage damaged..... 25
CHICAGO, ILL.—Plant of Reliable Packing Co.—W. 47th St.. 40
PITTSBURGH, PA.—Concrete forms on span of Brownsville Ave. Bridge ..... 75
POMEROY, OHIO—Business district damaged..... 165
PORT WASHINGTON, L. I., N. Y.—Sand's Point Casino..... 80
STARKVILLE, MISS.—Cotton Warehouse destroyed..... 80
RUTHERFORD, N. J.—Bivona Bldg. Park Avenue, destroyed.. 30
ANDALUSIA, ALA.—Benson Hardware Co. bldg. destroyed... 80
YUBA CITY, CALIF.—Plant of J. B. Wilke..... 65
VANCOUVER, WASH.—C. C. department store damaged..... 100
ONEIDA, ARK.—Factory of James Westcott & Sons..... 80
COTTON PLANT, ARK.—Cotton Plant Compress Co. destroyed 80
OSHKOSH, WISC.—Icehouse of Chicago & N. W. R. R..... 40
HARTSHORNE, OKLA.—Savage Drug Store and bldg..... 40
HOPKINGTON, IA.—General store of F. A. Bart..... 25
EVANSVILLE, IND.——Evansville Mattress Co. damaged..... 40
CANEYVILLE, KY.—Penner Hotel and adj. property..... 50
BATTLE CREEK, MICH.—Factory, Consolidated Electric Co. 180
CLINTON, MASS.—St. Mary's Catholic Church..... 25
AUGUSTA, GA.—Main bldg. August Clay Products Co..... 40
FALL CITY, WASH.—Magee Confectionery-Helberg Garage... 80
MILAN, TENN.—Property, H. C. Braham & Presbyterian Church ..... 80

### Week Ending Sept. 16

VANCOUVER, B. C.—Canadian Pacific freight shed..... 70
SIKESTON, MO.—Plant of Aiken-Sikeston Canning Co..... 30
INDIANAPOLIS, IND.—Bldg. of B. F. Goodrich Co..... 40
CAMBRIDGE, MASS.—Wadsworth Chambers, Brattle St..... 35
WOODLAND, ME.—St. Croix paper mill destroyed..... 25
ANDERSON, IND.—Factory of Ward Stillson Co..... 170
BOONVILLE, N. Y.—Bamber Block destroyed..... 40
MILWAUKEE, WIS.—Warehouse, Milwaukee Dealers' Assn.... 65
QUINCY, CALIF.—Butcher & Hadlen factory..... 40
OMAHA, NEBR.—Barnhart Printing Co..... 30
YORK, NEBR.—Sun Theatre, owned by E. B. Woods..... 40
SARASOTA, FLA.—J. N. McDonald Bldg., Main St..... 50
NEW YORK, N. Y.—Atlantic Gypsum Co., Hunts Point Section 65
CARTHAGE, IND.—Dixon Board Mills property..... 30
HIGH POINT, N. C.—Plant of Union Furniture Co..... 400
SOUTH MEDFORD, MASS.—Plant of Highland Coal Company. 30
NEWPORT, OHIO.—Grain elevator of Geo. Keller..... 40
WAITSBURG, WASH.—Taggert Apple Packing House destroyed 25
LOUISVILLE, KY.—Warehouse of Wagner Hardware Store... 40
MARTINSBURG, W. VA.—N. American Cement Corp. Bldg. Berkley Station ..... 50
GERMANTOWN, PA.—M. A. Keuhn Garage destroyed..... 40
SEBAGO, ME.—Property of Dike Mt. Farm, Douglass Hill.... 40
MANCHESTER, PA.—Plant of Pittsburgh Transformer Co.... 25
ARMOUR, S. D.—Three lumber yards damaged..... 400
ELKHORN, WISC.—Storage tanks, O'Neill Oil & Paint Co.... 25
WILMINGTON, N. C.—Carolina Beach Hotel..... 100
BERNARDSVILLE, N. J.—Property on estate of W. B. Bliss.. 25
CAMBRIDGE, MASS.—Warehouse at 132 Broadway destroyed 30
PATERSON, N. J.—Peter VanReen & Son storehouse..... 40
ALEXANDRIA, LA.—Mrs. Norman Scott's residence..... 25
CARNEGIE, PA.—Half block of business establishments..... 80
WINCHESTER, ONT.—Factory, N. F. Beach Co..... 165
GULFPORT, MISS.—Home of Theo. W. Hemingway..... 30
BOSTON, KY.—Business district damaged..... 200
ROSEBURG, OREG.—Roseburg Millwork Co. property..... 40
LITTLE ROCK, ARK.—Blacksmith shop, Mo. Pacific R. R..... 40
MARTINSBURG, PA.—General Creamery plant damaged..... 40
NESHANIC, N. J.—Farm bldgs. G. G. Brokaw, Centerville Rd.. 25
BROWNS MILLS, N. J.—Post office and adjacent property.... 25
BLAINE, WASH.—Saginaw Shingle Mill destroyed..... 30
RAINIER, WASH.—Property of Lindstrom-Handforth Lumber Co. ..... 250
HOPKINTON, IA.—Bort Mfg. Co.—Cooperative Creamery Association ..... 45

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**Model of Ft. Dearborn to be Erected in Chicago**—A new fire station to be erected in Chicago has been designed along the lines of the famous old Fort Dearborn. The station will be erected just 150 feet from the site of the old station. It will house two fire companies.

## Fire Proof Lumber a Reality

Numerous lumbering interests have been experimenting for some time with the problem of fireproofing and waterproofing the lumber that is being used for building construction. More money has been spent this year for such experimentation than any other period by the lumber concerns.

This measure has been taken to work around the rigid rules incorporated in the building ordinances tending to bar wood from certain parts of a building.

Not only have the largest lumber manufacturing companies of the United States spent large sums in perfecting a system for fireproofing lumber, but some of the leading trim manufacturers have been working out a nation-wide sales distribution of packaged trim that will meet any practical fireproofing requirement that present or future building codes call for.

Within the year one of the largest woodworking companies in Manhattan announced to the building trade that it had equipped a plant for the sale of fireproofed lumber and, according to a member of the firm, it promptly sold up its capacity.

Another firm started a year ago to study the problem of fireproofing and waterproofing lumber and other building materials. Its plant has been in operation all summer, more as a research laboratory, however, than as a market purveyor, with the idea of getting production of treated lumber down to a point where it can compete with untreated lumber. It expects to enter the fall market with a capacity of 100,000 feet a day, but once the process has been brought to perfection the plan is to manufacture fireproofed and waterproofed lumber at mill source, so that the cost of it will be brought to the lowest possible market price.

The significance of this concentration of effort to perfect a marketable process of fireproofing and waterproofing lumber and trim purposes, as well as for scaffolding of buildings in course of construction, lies in the fact that in the event of building code revision, stimulated quite possibly by wholesale wooden house construction in the outlying sections of the city, either the fire limits of the City of New York will be extended to the present borough boundaries or non-fire-resisting building materials will be barred from use.

### Claim No Menace Exists

There is a considerable section of the lumber supply industry of New York City that insists that no fire menace exists in Queens Borough, in consequence of the presence there of large areas given over to wood construction. It is pointed out that great numbers of Western cities have, until recent years, been largely built up by frame house construction, and that when people own their own homes, as is generally the case in the sections of this city that come under the personal inspection of the Industrial Survey Commission, the risk of conflagration is no greater, with adequate fire-fighting facilities, including necessary water pressure than it would be if these areas of homes were built of other materials. Lumber men contend that there is no perfect security against conflagration as long as the contents of homes, hotels, offices, warehouses, churches and other type of building housing humans, contains inflammable furnishings.

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## More Fire Towers Added in Michigan

Additional fire towers will be established in the upper peninsula of Michigan as forest fire protection.

Measures for strengthening the fire protective unit and for building up the fire-fighting equipment are now under consideration, according to Director Young. There are 14 forest fire districts in the state, he said, with seven located in the upper peninsula and seven in the lower. Two fire fighting pumper trucks have already been added to the equipment in the upper peninsula and next year it is the hope of the commission to have each of the 14 districts provided with similar equipment.

One man would be assigned to each truck, ordered to care for it and be ready for a call at any time, he declared. The approaching season is one in which there is great danger from forest fires, Young warned, and careful observance is necessary, especially in the upper peninsula.

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**No Pay—No Work**—Unless the firemen of Williamson, W. Va., receive their pay checks for both June and July they will refuse to answer any fire alarms. The firemen are being used as pawns in a squabble between the mayor and the city clerk.

**Fire Protection for San Bernardino Mountains**—The Water Conservation Association has purchased a completely equipped fire apparatus for forest fire protection and has presented it to the United States Forest Service. The apparatus will be kept in San Bernardino and will be used to protect the San Bernardino Mountains. The apparatus carries complete equipment for 150 men.

## CHIEF L. G. HOLDEN OF PORTLAND WILL RESIGN AT END OF YEAR

**Plans to Retire on 62nd Birthday, December 31—To Devote Time to Growing Bulbs on Two-Acre Farm—Forty Years in Department**

THE last day in 1927 will also mark the last day of Chief Lee G. Holden in the Portland, Ore., fire department. The chief will retire on his sixty-second birthday, December 31, 1927. He has been head of the fire bureau since July 1, 1923.

Chief Lee G. Holden

The appointment for the new chief will depend upon a civil service examination, and the selection of Chief Holden's successor will be made by C. A. Bigelow, commissioner of public affairs.

Chief Holden declared that he would retire because the fire bureau is now running like a well oiled machine, because he figured that he has done his duty to the city, and because he wants to get some real pleasure out of the remaining years of his life.

"December 31 is my birthday," he said. "I shall be 62 years old. The day is the last day of the week and it is the last day of the year. I want to make it my last day with the fire bureau."

Chief Holden joined the fire bureau when there were three volunteer companies. Today there are 44 paid companies, and the bureau owns property worth many millions of dollars. He has built more fire stations than any other man in the United States and has devised apparatus for the department that has saved the city many thousands of dollars.

He is the author of the idea of small, fast and powerful fireboats, and three are now under construction in the city and will be ready within a short time. The idea has been taken up by other chiefs throughout the country where harbor fires are their chief problem.

Chief Holden entered the fire bureau August 9, 1887, with Grant engine company No. 2, East Portland, then located on East Seventh street between Harrison and Stephens streets. Joe Reising then was chief of the department, and there were three companies in the city. Today there are 44, including 32 water companies, two fireboats, five truck companies and two chemical companies.

Lee Holden is a builder of fire stations in the city. He designed 24 stations, some of which were built twice in the 40 years. He designed the first bungalow fire station any fire department ever had, the one now in use in Irvington. He devised a method by which water turrets can be operated on ladder trucks, and the city now has four of them.

He converted horse-drawn obsolete apparatus into up-to-date chemical apparatus. He was the first to work out the idea of a squad wagon to save life as well as property, and the city's squad wagon is equipped to give first aid of any kind in an emergency, and the crew members are Red Cross graduates. He put on the first self-contained electric light plant on fire apparatus, and another is under construction to be used on the east side.

The idea to build small, fast and powerful fireboats, capable of getting to fires through the bridges without opening of draws, was his. The new fireboats the city is building will travel 20 miles an hour and will pump 9200 gallons of water each minute.

Chief Holden was born in Cairo, Ill., December 31, 1865, where his father was mayor and postmaster. He started to school there and later moved to Jonesboro, and still later to Metropolis. Then he went to Montana for two years, returning to Illinois where he worked on steamboats and in furniture factories. He came to Portland January 27, 1885, and was the first "theatre butcher" in the city, selling ice cream and pop corn to the patrons of the Casino theatre, then on Washington street, where the Morgan building now stands. Later he got a job with the Chicago tea room, but that lasted only six weeks, as the concern closed its doors. Later he worked for a grocer on the east side and it was there that his interest in the fire bureau began.

Chief Holden is an ardent fisherman. His farm is at Aloha, two miles and a half west of Beaverton. There he has built himself a modern house with lights, gas and hot and cold water, and there he plans to raise bulbs for his own pleasure and for market for the rest of his days.

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## CITIES MUST STANDARDIZE ON WAY TO REGULATE THE TRAFFIC

**Each City Has Adopted Method of Its Own—Great Confusion Results—Traffic Officer Should be Specially Trained**

By THOMAS F. GOODE,
Deputy Superintendent of Police, Boston, Mass.*

TRAFFIC regulation today is practically the greatest problem in the every day police duty. Crime occurs in spasmodic periods but this is not so with traffic regulation as it is a continual problem practically twelve to fifteen hours each day. Within only a few years it was a common custom to take most any police officer, and sometimes a different one each day, and place him upon a traffic post to regulate traffic; today that is all changed and permanent units, with the necessary number of superior officers are only regulating and controlling traffic in the public streets.

Traffic regulation has become a specialty which requires men who have had suitable training in this work. Personal selection of patrolmen, and particularly so in the assignment of superior officers in charge of this traffic force is necessary for efficiency. In fact, our traffic problems are fast going beyond the average schooling and intelligence, and are becoming a serious engineering problem. In a few of the larger cities, there has been created a traffic engineering department which works with the traffic police in solving many of their difficulties.

In the consideration of practically all our different traffic problems, it is actually necessary that we take into consideration the views and opinions of the fire chiefs in order that the efficiency of the fire department may not be retarded in any manner. After all, one of the first and principal duties of both departments is the protection of life and property, and to accomplish this complete harmony and cooperation should exist between fire and police departments.

At the present time sirens, horns, bells, and so forth are being used in congested sections to warn of approaching fire apparatus and in cities and towns traffic signal lights are used. Provision has been made for giving a distinctive signal in case of fire; but there is no standard way of doing this at the present time. Fire chiefs should take this matter up with your police officials or other bodies who make traffic regulations with a view of having a standard method of assisting the fire departments in their passage and work in the public streets.

Boston has, like many other cities and towns, many regulations for the benefit of the fire department, but we do not claim ours as the standard way. For instance we have a restriction of ten feet at a hydrant while some of our nearby cities and towns have fifteen feet from a hydrant. We have twenty feet clearance at intersecting streets for the benefit of large pieces of apparatus in turning the corner, but other places have less and some have no such restrictions.

In my opinion the greatest menace to the fire department today is the parking situation and that is caused, in most cases, by the lack of traffic officers to enforce the parking regulations; but even with a sufficient number of officers, we still have a certain amount of legal parking which might be an obstruction. We cannot restrict parking entirely because of the serious effect it would have on many business concerns who, after all, are the heart's blood of a progressive city. Another bad condition we are having, in some places legally, but in many places illegally, is head-on parking, particularly in the vicinity of moving picture theatres where women and children compose most of the audience. We find, in Boston, that this is a dangerous practice as in the event of a fire in one of these theatres you can realize the difficulty of getting apparatus close enough for action. Parking should not be allowed at any time in front or rear or near any exits connected with these theatres.

At the present time one of the best things that can be done in the regulation of traffic, not only for the benefit of the fire departments but for the benefit of the public at large, is to have a standard uniform way of regulating and directing traffic.

(*Continued on page* 1005)

* Excerpt of address delivered at annual convention of the New England Fire Chiefs' Association.

# FIRE DEPARTMENT ACTIVITIES

**Pumper Delivered to Mahoney City, Pa.**—A Hahn pumper has been delivered to Mahoney City, Pa.

**Durant, Ia., Installs Siren**—An electrically operated siren has been installed in Durant, Ia.

**Lebanon, Pa., Has New Fire Station**—A new fire station has been opened in Lebanon, Pa.

**Golden, Col., Receives New Apparatus**—A new piece of fire apparatus has been added to the Golden, Col., department.

**Maywood, N. J., May Purchase Fire Apparatus**—Purchase of fire apparatus is being considered by the officials of Maywood, N. J.

**Traffic Siren Installed in Fort Dodge, Ia.**—A traffic siren to warn of the approach of fire apparatus has been installed in Fort Dodge, Ia. It was installed by the Harrington-Seaberg.

**New Castle, Pa., Awards Station Contract**—New Castle, Pa., has awarded the contract for the erection of a fire station in New Castle, Pa., at an approximate cost of $27,000.

**Plant City, Fla., to Have Fire Alarm**—Work has started on a fire alarm system for Plant City, Fla., consisting of underground cables and a number of fire alarm boxes.

**Cranston, R. I., Working on Fire Station**—All the steel framework is up for the erection of a fire station in Cranston, R. I.

**Springfield, Mass., Considers Apparatus Purchase**—The mayor of Springfield, Mass., is considering the purchase of fire apparatus of an estimated value of $13,000.

**Six Roadsters Ordered for San Francisco, Cal.**—Six Buick roadsters were ordered for the use of the battalion chiefs in San Francisco, Cal.

**Geneva, N. Y., to Receive Ladder Truck**—Geneva, N. Y., is awaiting the delivery of a ladder truck which was purchased for $16,000.

**Large Fire Destroys Turkish Homes**—Two thousand people are homeless in Scutari, a suburb of Constantinople, Turkey, as the result of a fire. The suburb has a population of 8,000.

**New Fire Alarm System Urged for Bingham, Utah**—Firemen in Bingham, Utah, are urging the installation of a new fire alarm system.

**Gas Masks Ordered for Verona, Pa.**—The council, upon the recommendations of Chief Shadle, has ordered gas masks for the Verona, Pa., fire department.

**Columbus Grove, Ohio, to Purchase Apparatus**—Funds are being raised in Columbus Grove, Ohio, for the purchase of community fire apparatus estimated to cost $5,000.

**Somerset, Ky., to Install New Siren**—Somerset, Ky., is expecting the delivery of a new siren which will be installed on top of the city hall.

**Birmingham, Ala., Plans for New Station**—An architect has been hired to draft plans for the erection of a new fire station in Birmingham, Ala.

**Apparatus in Springfield, Ill., Being Overhauled**—Apparatus in Springfield, Ill., is being overhauled and put into the best condition possible. Chief Funderburk has replaced the old oil lamps on the apparatus with electric hand lights.

**Klamath Falls, Ore., Has Two-in-One Chief**—The chief of the fire department in Klamath Falls, Ore., is also head of the local police department. This action has been approved by the state fire marshal's office.

**Ft. Madison Central Station to be Remodeled**—The central fire station in Fort Madison, Ia., will be completely remodeled. While no definite plan has been announced, committees have been working on the plan.

**Trenton, N. J., to Open New Headquarters**—Trenton, N. J., will soon open its new fire headquarters. This building will house the machine shop, apparatus and all other departments and offices connected with the fire department.

**Hollywood, Cal., to Postpone Station Erection**—It is possible that the erection of a new fire station in Hollywood, Cal., will be postponed for a year and that the district will concentrate on a fire prevention budget.

**Schedule Changed in Red Oak, Ia.**—A new schedule has been adopted in Red Oak, Ia. According to the new plan, the firemen will be off duty two nights each week until midnight and will be granted every third Sunday off.

**Four Die in London, England Fire**—Fire in a film waste factory in London, England, caused the death of a woman and three girls. The cause of the fire is unknown, but it followed a severe explosion. Girls jumped from the building into the nearby canal with their clothes on and swam for shore.

**Elk Horn, Ia., Firemen Resign**—Volunteer firemen from Elk Horn, Ia., have tendered their resignation and the town is without a volunteer department. This action was taken, it is said, because of the large amount of undue criticism of both the men and the equipment.

**Lutherville, Md., Has Firemen's Convention**—Firemen and their families attended the twentieth annual convention of the Baltimore County Volunteer Firemen's Association held in Lutherville, Md. Thirteen companies were represented at the convention.

**Dewess, Acting Chief of Collingswood, N. J.**—William C. Dewess, has been named as acting chief of Collingswood, N. J., until such time as a permanent successor is named to the position made vacant by the resignation of Chief Peter B. Carter, treasurer of the International Association of Fire Chiefs.

**Olympia, Wash., Chief Asks for New Equipment.**—Chief Kingsley of Olympia, Wash., in his annual report, requests $6,500 for the purchase of a pumper, $10,000 for a ladder truck, $1,000 for a chief's car, $3,000 for the extension of the fire alarm system, the purchase of a chassis for the squad wagon and the addition of thirteen men to the fire department.

**Fresno, Cal., Proposes New Pension Law**—Firemen of Fresno, Cal., are considering a new pension law for the department. Under the suggested plan, each fireman would contribute three per cent of the annual pay towards the fund and the city would contribute a similar amount. In this way about $20,000 would be put aside each year.

**N. J. Annversary Committee Sends Out Cards**—Very attractive invitations have been sent out by the fiftieth anniversary committee of the New Jersey State Firemen's Association for the memorial exercises to be held in conjunction with the gathering of the association in Atlantic City, N. J., on September 22. The exercises will be held at the Garden Pier Theatre.

**Assistant Chief of Savannah, Ga., Celebrates**—First Assistant Chief John Toshach celebrated his forty-first anniversary in the Savannah, Ga., fire department. Chief Toshach came from London, England, in 1886 and intended going west. He stopped off in Savannah to visit his brother and has remained there ever since.

**Tournament Held at Bellport, N. Y.**—The fifty-seventh annual tournament of the Suffolk County Volunteer Firemen's Association was held in Bellport, L. I. The judges were John Dorman, fire commissioner of New York city, Congressman John B. Johnston of New York city and George J. Kuss, member of FIRE ENGINEERING advisory board and fire commissioner of Long Beach, N. Y. A number of records were broken in the contests.

**Akron, Ohio, Has Costly Apparatus Crashes**—Two apparatus accidents that occurred on Memorial Day in Akron, Ohio, will cost the city $14,738 as the results of the claims filed against the city. One accident happened when a fire apparatus crashed into an automobile and the other accident was when another company answering the same alarm crashed into another car. Purchase was authorized of new apparatus costing $11,000 to take the place of one damaged.

**Brooklawn, Pa., Firemen Override Mayor**—Firemen of Brooklawn, Pa., will have a carnival in accordance with their plans—that is if the vote of the council is considered legal. The mayor refused to sanction the plan on the ground that the site was too near a main highway and would endanger the lives of the children. A special meeting of the council was called, and a permit was granted. The mayor declared the meeting illegal as he was not given the legal notice. Conditions are serious, as it ties up the payroll and some necessary payments.

**Mainzer Honored by Berlin, Germary, Chief**—Robert H. Mainzer, honorary deputy chief of New York city, has had an unbroken record for attending all major fires in New York city for the past twenty-eight years. He arrived in Berlin, Germany, from Switzerland and in order that he would not be out of the fire department environment, Chief Kempp arranged for him to stay at one of the fire stations. He will have a chance for close study of the German firefighters who have been called the "maids of all work." Mr. Mainzer was officially received by the mayor of Berlin.

# INDUSTRIAL PLANT PROTECTION

## Test Made of Furniture

With the large amount of discussion as to the fire resistance of office buildings and other so-called fireproof buildings, the United States Bureau of Standards, knowing that a great deal depends upon the contents of such buildings, made a number of tests as to the safety of office furniture from fire. The tests were made in fireproof rooms furnished as complete offices, first with wooden furniture and then with steel furniture. The rooms were fired in three ways as described and the temperature was measured at fifty different points at frequent intervals.

It has long been evident that when testing under the most severe conditions of quantity and exposure of papers, full supply of air, maximum congestion of furniture liable to be experienced in any office, and freedom from any fire-fighting effort whatever, that the total amount of combustibles of any and all sorts present, and the degree to which air could have

**Steel Furniture Withstands Flames**

This is not a picture of the test conducted by the Bureau of Standards, but the remains of a fire which destroyed most of the contents of a building with the exception of the steel filing case.

free access to these combustibles, control the height of the temperature attained, and, in that way, the spread of the fire. For, as is well known, each kind of combustible material has its own point of ignition, and when its temperature is raised to that point, if it be in actual contact with the air it bursts into flames whether flame from other burning material has touched it or not. This fact was brought out more strongly than ever before in these tests. In one test, the amount of combustible present was limited to 4000 pounds of papers and books in a 15-foot by 29-foot office room (ceiling height 9 feet 9 inches), the furniture being entirely of the ordinary commercially-available sheet steel varieties and the floor of concrete. This change to metal furniture reduced the amount of combustible in the test to only one-half of that present where the same floor and wood furniture was used. Briefly, the results found were that:

(a) A fire started by a match in a paper-filled steel waste basket smouldered out by itself and did not spread.

(b) A fire started in a waste paper basket adjoining open steel shelving filled with letters and other papers, spread only into the papers on the adjacent shelves and on top of a table on which one of the shelves was supported.

(c) A fire started by a great flame from 400 pounds of fine split dry kindling wood, saturated with kerosene oil and held in a huge wire basket 3 feet in diameter and 7 feet high, in one corner of the fireproof room, spread so far as damaging contents of the furniture, no more than five feet from the wire basket; and, so far as igniting loose papers on desks and the tops of cabinets, no more than a maximum of 15 feet from the wire basket.

(d) The maximum temperature attained at any point other than the immediate area occupied by the flame from the wire basket, was greatly below that of the same points in previous tests: a fact accounted for by both the lower temperatures due to less material burning at any one time and because much of what was present was contained within incombustible enclosures so it could not burn freely.

That the amount of combustible present and its exposure to the air is the determining factor, was further demonstrated in another test. The same steel furniture which had stood the previous test was again filled with an equal supply of papers and books and was placed in the same position in the same room, but resting this time on a ⅞-inch wide faced common yellow pine floor laid on 2-inch by 3-inch wood sleepers, and was then ignited by the same great flame as before. Here the fire spread as it had in all the tests with combustible furniture so that all part of the room were on fire. After the fire the steel furniture was intact but was disfigured and its contents were about two-thirds consumed. The limited air supply of the closed type of construction was shown to be of very great value in preventing the destruction of the contents of the furniture. But standing out above all else is the important fact that for safety of office contents, the amount of combustible present must be kept down to the mere papers and books which record the business transactions of the office, and that these should be stored in receptacles which will not burn and will prevent the easy access of draughts of air to the heated contents.

## Fined for Dipping Hats

Although warned by Fire Marshall Lewis to discontinue the practice, the Standard Hat Company of Toronto, Canada, continued to dip hats in pyroxylin. They were fined one hundred dollars.

The factory is located on the third floor and on the ground floor is another factory making buttons. Fumes from the dipping worked their way down to the ground floor and twenty-five employees working there were overcome. The marshal urged that a private room be constructed for carrying on the dipping process. The defense of the hat company was that the fluid was only used on three occasions and as the dipping was because of a special order and the hat season for that particular style had ended, the expense was not warranted.

JOHN KARL LEE

## New Device Protects Generators

A peculiar fire-fighting instrument protects huge generators that produce electricity for a city. Sometimes such generators heat up under overloads and insulation catches fire, necessitating costly repairs. The new instrument receives from each generator in a plant a continuous stream of test air through a pipe. If any smoke appears in the test air, it drifts through a thin beam of light that is directed across the mouth of the pipe against a sensitive cell. The smoke shuts out an infinitesimal amount of the light and the instrument at once sounds a gong, stops the generator, and blows into the generator case a charge of inert gas which extinguishes any flame that may have started. Thus fire protection is automatic and sudden. The chances are slim that the power plant will ever be bothered with generator fires.

**Pennsylvania Firemen to Meet in Shamokin**—The forty-eighth annual convention of the Pennsylvania Firemen's Association will be held in Shamokin, Pa., the week of October 2. A parade will be held on Thursday afternoon of that week and about $1,000 will be distributed in prizes for those marching.

**Port Jefferson, L. I., Starts on New Fire Station**—Dedication exercises for the new fire station in Port Jefferson, N. Y., were held on September 3. The main address was delivered by Rev. Joseph Alton of Sea Cliff, N. Y., former vice-president of the New York State Firemen's Association.

**Pasadena, Cal., Cuts Down on Expenses**—Four battalion chiefs of the Pasadena, Cal., fire department have been reduced to the rank of captain in order to cut down on the expenses of the department. In order to cut down on the cost of operation, the city manager investigated the salary question and stated that four of the officers were being paid more than their positions warranted.

# OF INTEREST TO VOLUNTEER FIRE DEPARTMENTS

## FIREMEN SHOULD PREPARE FOR APPROACH OF ACTIVE SEASON

**Burning of Dead Leaves and the Use of Heating Plants in the Homes, Increases the Possible Chance for Added Fires**

LEAVES changing from a dull green color to the browns, yellow and reds of autumn will soon indicate the approach of the fall and winter seasons. But to the chief of the fire department, it represents the approach of the busy season—an increase in the number of fires.

In the city, there are not enough trees to make the problem serious. In the rural sections where the residents depend upon the volunteer fire department for fire protection, each home has one or more trees nearby. When these trees commence to lose their foliage, the home-dweller starts to rake the leaves into mounds and to get rid of the material by burning it.

The leaves are not burned once—additional fall winds bring down more leaves to worry the resident—more leaves to be disposed of. Fire department history is full of large fires that are caused by the careless burning of leaves in the fall.

The firemen should impress on the townspeople through the various clubs and associations, the importance of exercising care when it becomes necessary to burn the leaves about the home. They should be taught that this should not be done on a windy day and that a pail of water and a broom should be placed nearby as a precautionary measure.

### Necessary Preparations

Aside from the move by the department to educate the public to the necessary measures that must be followed in order to prevent fires, certain steps must be taken by the firemen to fight such fires when they do occur.

Large, heavy fire apparatus is not necessary, and it will be found that they will often be in the way as the fires mostly occur in the back yards. A good plan would be to get the use of a light truck or even a runabout with a box arrangement in the back. On this car could be placed a number of fire extinguishers, pails, brooms and some small hose.

This light car would be the first to answer fire alarms in the fall season as the chances are that the fire is caused by burning dried leaves. Only one or two men are necessary to man this truck. It could be followed by the large chemical truck or pumper as a second line of defense should the fire prove to be a large one and beyond the incipient stages.

By using the plan suggested, considerable time will be saved. It will not be necessary to wait until a full complement of men are available, but as soon as two men report at the fire house, the light truck is taken out and rushed to the fire. Later when more of the volunteer firemen respond, the larger pieces of apparatus could be taken out. The light car will be able to drive up close to the fire with the least damage to the lawn and property of the resident.

### Should Also Plan for Winter

Nor is the "burning leaves" problem the only one that confronts the volunteer firemen with the approach of the colder weather.

Each home is a potential fire. Just as soon as the people experience a slight chill in the evening, they build a fire in the open fire place or even in the furnace proper. Not a thought is given to the matter of cleaning the flues or to see that the heating plant is in the proper condition for holding fire.

### School Children Can Help

There is literature available for distribution to the school children that will bring to the various homes the message of carefulness. This is perhaps the best way of telling the adults that the time has come for them to inspect the flues, chimneys and to clean the section immediate to the furnace.

Many fires at this time of the year are started from preventable causes. Sparks from a small fire in the furnace alighting in a pile of newspapers, sparks from the open fireplace falling on the nearby rug, sparks from a dirty chimney falling on a wooden shingle roof—all preventable causes. And there are more.

Unless the volunteer firemen are keen to drop whatever work they are doing and rush pell mell to fight fires, they would do well to arrange some educational program to impress the resident with the importance of good housekeeping at this period of the year.

Remember the fireman's busy season is approaching and steps should be taken to reduce the number of unnecessary calls.

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## McClain Heads Delaware Firemen

J. E. McClain of Delmar, was elected president of the Delaware State Volunteer Firemen's Association at their seventh annual convention held in Rehoboth.

The association went against the plan which they had recently adopted of having the state president selected by rotation. Delegates from Kent and Sussex counties joined in selecting Mr. McClain as president. Although a plea was made against the practice of confining the presidency to the lower part of the state and to consider the practice of rotation, the suggestion was ignored.

Besides Mr. McClain, the other officers selected are Charles E. Bailey, Laurel, vice-president; John Guyer, Richardson Park, re-elected treasurer; Samuel H. Carson, Dover, re-elected secretary; E. S. Jones, Middletown, C. C. Holzmueller, Milford and M. M. Conway, Smyrna, members of the executive committee.

Milford was selected as the place for the 1928 convention but no definite date was set.

Twenty-two companies and nine bands of music were in the parade that marked the closing of the convention. Following the parade, the delegates were entertained by firemen of Rehoboth at a banquet in the Hotel Belhaven. Speeches were made by the president-elect and other prominent members of the association.

Firemen assembled at the annual convention of the Delaware State Volunteer Firemen's Association in Rehoboth, presented a resolution that they were against the plan of holding firemen's carnivals to raise funds with which to maintain the department.

They suggested that the state establish a fund and distribute moneys to the various departments depending upon the value of the fire equipment, so that the department could be maintained without humbling themselves by raising funds with other plans.

Reference was made to a fire in Church Hill, Md., at which time all of the firemen were at a carnival trying to raise funds for the department. Before any aid could be obtained, the place suffered a $100,000 loss.

The association voted down the resolution that the firemen go on record as being opposed to the holding of carnivals.

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## Many Answer Locomotive's Call

Hundreds of the residents of Norfolk now know that even a locomotive can go on a spree.

The whistle on a Norfolk Southern locomotive stuck and the blast kept going continuously. Boats tied up nearby mistook the noise of the escaping steam for the signal of fire and they in turn commenced to blow their whistles to relay the call for fire department assistance. The din continued to grow.

Night watchmen at some of the factories, thought that they would help out and so they blew their sirens. Somebody in that section hearing all of the noise thought that there was a big fire at the plant of a large wood products company and so he called the fire department to tell them about it.

Before the cause of the trouble could be discovered and the din could be quieted, two engines and one truck company had responded. When the deputy fire chief appeared, the excitement ended.

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**Americus, Ga., Purchases Pumper**—Americus, Ga., has purchased a Seagrave 750-gallon pumper for $12,000.

**Sayre Borough, Pa., Apparatus in Crash**—While on a test run, fire apparatus of Sayre Borough, Pa., crashed into a car with such force that the driver was thrown to the pavement and seriously injured. Another fireman was thrown from the rear of the apparatus and taken to the hospital. The car that was struck was almost demolished and a large telephone pole was broken off.

## Heading Off the Electrical Hazard

(*Continued from page* 988)

the unorganized inspector meet organized branches of electrical industry with dignity, with a program, with consistency or with constructive serviceability to the public he is supposed to be serving. The inspector must be a leader—not a lagger.

And one great and immediate need for electrical inspectors, to be met only by the organized inspectors, is to help develop the code itself as their code. If, today, this code does not fully meet their every individual need—which needs really vary mighty little from Portland, Ore. to Portland, Me.—any such lack in the code of today can be laid largely at the door of the electrical inspectors as a whole. "Inspectors—Unite." Make the code of tomorrow, 1928, and thereafter, your code.

### Need for Simplification in Electrical Installation

Nowhere is simplification more needed than in Electrical installations where so many parts and so many kinds of parts, and so many repetitions of similar conditions are concerned.

One complete code, well correllated in all its parts, of the necessary scope and detail, and of nomenclature unmistakable, in order to make local rulings largely unnecessary and always temporary—that is an object for the united inspectors to work for.

One code may grow somewhat in scope and detail, to accomplish this end. The Electrical Committee of the National Fire Protection Association stands ready to listen to the needs of the inspectors, when expressed clearly and in a unison of voices instead of in a confusion of tongues—a Babel. Part of my own work as Electrical Field Secretary, is informally assisting to bring about this unison out of that confusion.

What fire prevention needs, it may be asked, are today most outstanding in electrical installations? What do electrical inspectors see most in unison as these needs? The outstanding needs for safety in electrical installations, as voiced everywhere by inspectors, may most briefly be stated as:

(1) Adequate scope and definiteness in the rules of one universally applied Code.
(2) Uniform understanding and application of this one Code, by unified inspection methods.
(3) Ordinances or Statutes, wherever adopted, to refer to this one Code as the standard, and to approach unification of administrative machinery and method.
(4) Ordinances or Statutes, wherever adopted, to require electrical materials and devices, as *sold* or *installed*, to comply with the one Code.

As to recent and current developments in the one code—"The National Electrical Code," prepared by the National Fire Protection Association, printed by the National Board of Fire Underwriters, approved by the American Engineering Standards Committee—I understand that some detailed discussion of these developments will be a part of an Ohio Electrical Inspectors Conference called through the good offices of Fire Marshal Magruder at Mansfield, Ohio. I can say briefly that they include—

(1) Stating more definitely "where" one or another recognized type of wiring is suitable for continued safe use, according to building construction, occupancy, etc.,—not dependent closely on fire limits.

Types of wiring ill-fitted to a given location are not permanent, durable, safe or satisfactory in that location. Open know or cleat wiring, for instance, has proven definitely unsafe in theaters, garages, schools and many other locations. The Code already gives some guidance. More is needed. The Code each year provides more.

(2) Stating for advance guidance, for circuit and load layout, what minimum numbers and kinds of circuits and what numbers and kinds of outlets are needed and can properly be depended on to serve a given area, according to occupancy, for lighting and for appliances, in view of reasonable minimum demands which the public are known to make on such circuits, under such conditions.

An insufficient number of outlets or outlets of unsuitable size or character, lead directly and quickly to numerous and long cords, cord abuse, makeshifts and danger. We have known the danger of cord abuse for years. We have not yet taken the necessary steps to provide Code guidance for enough outlets, the necessary character, the necessary numbers and kinds of circuits. Field experience has, however, shown what is needed, and the Code is gradually meeting this need.

(3) Stating for advance guidance, for feeder layout, what minimum demand factors can properly be applied to size of feeders supplying light, heat and motor circuits, in view of prevailing loads recognized as existing on groups of such circuits according to the area and occupancy they serve and the particular type of service rendered.

In some cases unnecessary amount of copper is being put into feeders where only a small percentage of the total lighting load prevails at any one time. Office buildings are examples of this waste of money where the same expenditure would reduce real fire hazards such as insufficient outlets and circuits. In other cases, feeders are commonly too small, as for window lighting where the prevailing loads are such as to call for liberal capacity and advance guidance is needed in the Code, before trouble arises from ignorance and overloading.

(4) Stating more definitely the kinds of electrical systems, arrangements of conductors, methods of polarization, voltages, etc., —which are recognized as safe and readily maintained safe, for various types of wiring, various types of service rendered through them, and for various other determining conditions.

A system with one wire well grounded and no other wire over 150 volts about ground, for instance, lends itself to simplified fusing and switching and to permanent safety. A hybrid system with no grounded wire and perhaps fed from an autotransformer used as a balance coil, is a complicated, dangerous type to employ. The Code has just ruled out this particular system and is being made to include also the needed guidance as to what constitutes safe, proper systems.

(5) Adding and classifying any apparently necessary details to avoid local rulings, and making use in the National Electrical Code of various tabular and graphic methods as far as these can be applied—for brevity and simplicity.

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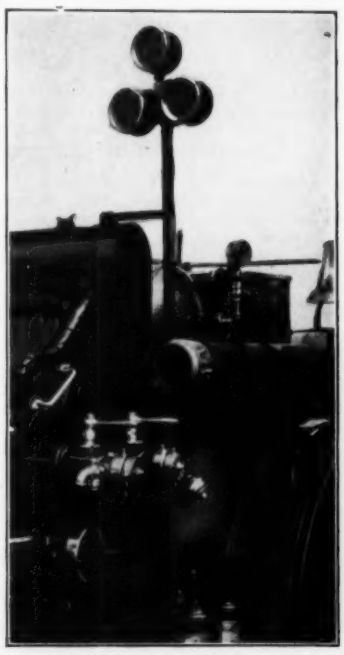
## Device to Mark Fire Apparatus

Various plans have been tried of marking fire apparatus so that its approach will be readily observed by traffic moving in either direction. A revolving light known as the "Roto-Rays" is being marketed by the Buckeye Iron and Brass Works of Dayton, Ohio.

Often at night, the red light on automobiles are mistaken for the warning lights used for excavations and road repair work, and the blinking signal is often taken for the beacon used to mark a safety zone in some cities, or a bad crossing.

The device consists of three red lights which revolve about a vertical shaft. The shaft is easily mounted on the running board of fire department apparatus or the car of the chief. The lights can be operated either from a six or twelve volt storage battery and when 21 candle power lamps are used, it does not require more than ten amperes of current.

The light has been very well received wherever it has been shown. The entire outfit weighs but thirteen pounds and is entirely self contained.



**Roto-Rays Installed on Fire Apparatus**

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## Children Afraid of Fire Boxes

Children are afraid to use fire alarm boxes. That is the opinion of Severin Seaberg, president of the Harrington-Seaberg Corporation, expressed at the convention of the municipal electricians.

He urged that a national program be started to educate the school children in the proper method for turning in a fire alarm, and that fifteen minutes a week be devoted for a six months' period to this instruction.

Mr. Seaberg stated that there was a large loss of life annually because the majority of the people throughout the country do not under stand the fire alarm system. In many cases, the residents do not know the location of the nearest fire alarm box.

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**Brainerd, Minn., Receives Fire Apparatus**—The state department of forestry has furnished the forest ranger at Brainerd, Minn., a truck with fire fighting equipment. The truck will be manned by six men.

**Augusta, Ga., Purchases Pumper**—Augusta, Ga., has ordered an 800-gallon Ahrens-Fox pumper to replace a pumper that was wrecked recently. The new pumper will be stationed at company No. 4. This is the second Ahrens-Fox pumper that the city has purchased this year.

## Preparing for Major Disasters

*(Continued from page 986)*

their principals, placed their equipment and forces at the disposal of local authorities as far as government regulations may allow, and have given much attention to plans of action, for in the event of a great catastrophe affecting Los Angeles, the army and navy forces would be a very vital factor in relief and rehabilitation work. At such a time it is evidently highly desirable and vital, in fact, that the least possible friction occur between the varous agencies of law and order enforcement.

### Committee of Water and Streets

Under the Committee of Water and Streets comes the duty of repair and maintenance of the water system, as this most important branch must continue to function at all times. Information as to the lines of distribution of water, important mains and the location of all valves, is in the hands of a number of men normally located at widely separated points within the city, the object being that no great disaster can occur and find the general committee without means to reach a competent man who will be immediately available, and who can direct intelligently the work of repair, diversion of water, or take steps to otherwise do what the situation requires. This is in fact true of other committees also, as in this most comprehensive plan the vital information along the various lines is not centered in one man, but is known to several. Thus half a dozen very important key men might lose their lives, but the work could go on uninterrupted. All available sources of water supply are charted, including even what are in normal times very inconsequential sources of private companies and individuals. Regard has been given to the necessity of clearing of debris from streets, and the keeping of streets open for traffic movement. The maps and charts of the Water and Streets Committee are very important and extensive.

### Transportation and Communication Committee

Communication has to do with all recognized agencies, such as telephone, telegraph, radio, messenger, and motor vehicle. Wonderful co-operation has been received from the telephone and telegraph companies in this respect. Facilities have been furnished by the local telephone company for connection on short notice to all of the 14 segregation areas referred to above, and, except in the event of a total failure of the system, these areas can be furnished with adequate telephone service within a matter of a few hours. The radio may prove to be an agency of indispensable importance in the matter of communication, there being a great number of broadcasting stations in and around this city, and all of which are favorable to the work of the committee. It is hardly conceivable that all of these various stations would be put out of commission by any catastrophe, and any of them is at the disposal of the committee. Plans for messenger service by motorcycle men have been worked out, this idea to be utilized in the event of complete breakdown of other means of communication, or in the event other agencies are inadequate for the purpose.

### Fire Protection and Public Utilities Committee

It is with the activities of the Fire Protection and Public Utilities Committee (See Fig. 1) that I am most vitally interested. This is undoubtedly one of the most important of the aforementioned committees, and the various ramifications have extended to unexpected lengths as their possibilities were followed out and developed during our labors. I deem this an opportune point to mention in a commendatory way the work of the First Assistant Chief Samuel H. Dodd of this department, for upon him has fallen the most of the detail work in connection with the working out of our problems. He has done a tremendous amount of work in the accumulation and classification of data.

At this time I may state that all statistical information accumulated by this and other sub-committees has been placed on file in vaults in three places in the city, one of which vaults is located in the fire alarm headquarters in West Lake Park. This location was selected for the same reason that a fire alarm station was erected there several years ago, it being centrally located and at the same time absolutely free from fire exposure, due to its location within a public park. It is and will always be a safe building, as no structure will be erected in proximity to it. The vault where these records are kept is under lock and key, and all our Chief Officers are in possession of general information as to what it contains. In the event of emergency it is expected that the lock will be forced, as the only key is kept in my office.

### Important Data on File in Vault

In this vault are on file the following data:

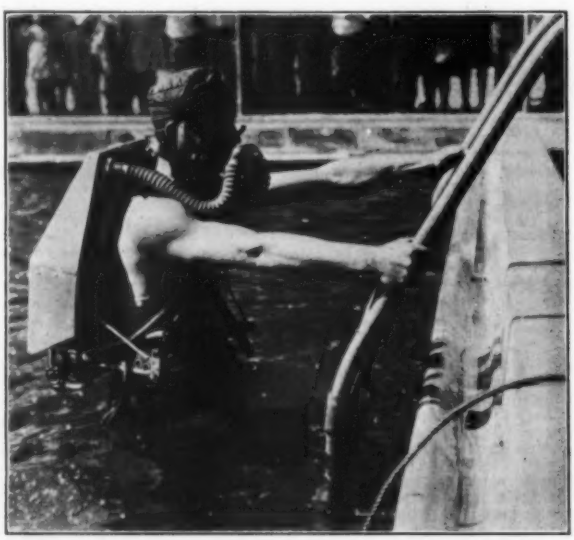
1. Maps showing all water reservoirs and mains leading to all parts of the city; main valves; and list of buildings having private water supply.
2. Maps showing all gas mains and district control valves of the same to all parts of the city.
3. Maps showing sources of supply and distribution of electricity by the several companies in the city, and their reserve lists of equipment, and lists of locations of all private generating sets.
4. Maps showing all oil pipe lines, supply tanks, and fire fighting equipment of all oil companies of the city.
5. Maps showing location of all powder magazines adjacent to the city, with lists of amounts of explosive stored.
6. Lists of all cities within a radius of 150 miles which have agreed to render assistance.
7. Lists of apparatus, equipment, and men to be sent from outside the city.
8. Plans of instruction issued to all Chief Officers of the Fire Department regarding emergency action, and instructions given all members of the department as to places of assembly, duties, etc.
9. The important personnel (key-men) of all public utility corporations, with segregation of their various lines of knowledge and activities.

### Final Step in Forming Concrete Organization

One important thing to be done, after the work of all committees is complete, is to call what may be termed a mass meeting, at which will be represented a number of men from all the various agencies. Such a meeting will therefore include a personnel of several hundred, and it will be the last step possible to be taken to make a practical, concrete organization, leaving nothing theoretical or abstract. It is necessary to test out this great machine as far as it is possible to do so. We will give every man present a working knowledge of what his contemporaries have accomplished, and impress him with the importance of the work and the fact that it *MUST* be kept a living issue. We will give him positive knowledge of the agencies that will work in harmony with his own, should the occassion require. The key-men of public utility corporations will be instructed to report to mobilizations headquarters at West Lake Park in the event of great emergency. As far as can be provided for in advance, military precision will be the order in such an event, instead of the chaos and disorganization which has distinguished some catastrophes of the past.

### Data Corrected Every Ninety Days

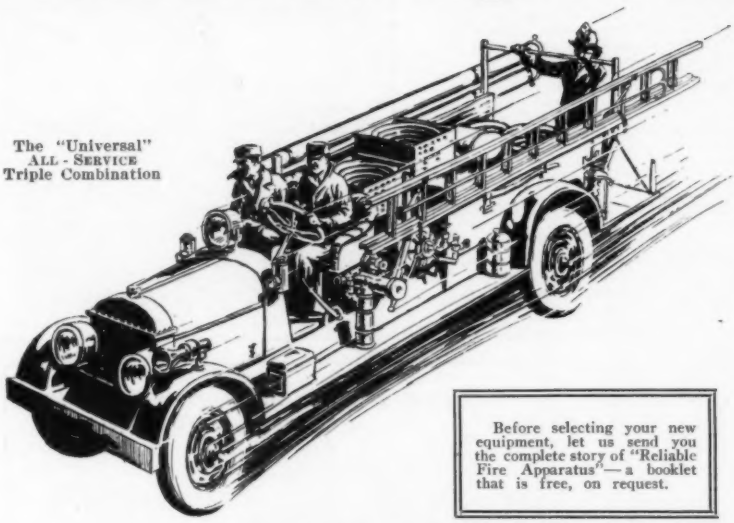
Every ninety days, with the assistance of the corporations involved, all maps and data are gone over and corrected, thus assuring us that the information is never stale as long as the system is conscientiously followed out. A great deal of the information I have referred to is of a strictly confidential nature, and our word of honor had to be given that it should not be-



**Gas Mask Proves Its Value in Underwater Work**

According to a test made by Captain C. H. Virdin of the Los Angeles fire department, the gas masks may be used in rescuing drowning persons and in other underwater work. At the time of the test, Mr. Virdin remained under water for twenty minutes and he stated that the mask is practical for that kind of work.

# Establishing a Real Record



The "Universal"
ALL-SERVICE
Triple Combination

Before selecting your new equipment, let us send you the complete story of "Reliable Fire Apparatus"—a booklet that is free, on request.

***A steadily growing preference among seasoned Fire Chiefs***

The confidence of fire departments has been won by high achievement—by the constant attainment of the new and better thing in fire apparatus design.

That brilliant, satisfying performance that even the most experienced firemen deem worthy of far more costly apparatus.

Standardization and quantity production yields that uniform merit which raises the "Universal" so far above its price class. The high quality is founded—first and foremost—on strictest standards, rigidly maintained.

Its ruggedness is instantly apparent. Sustained speed on long trips and your confidence on the difficult hills is well founded. "Universal" equipment is the result of nearly a half century of quality manufacture.

**W. S. NOTT COMPANY**
*Established 1879*
**201 N. 3d St., Minneapolis, Minn.**

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## MOTOR FIRE APPARATUS
***Built on the Unit Renewal Plan***

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**A big powerful siren but with low battery consumption.**

**Drained batteries are unknown where the Sterling No. 12 is used.**

**Volume with Safety**
**Price Complete $40.00**

***Manufactured by the oldest and largest siren manufacturers in the world***

**THE STERLING SIREN FIRE ALARM CO., INC.**
**61 Allen Street Rochester, N. Y.**

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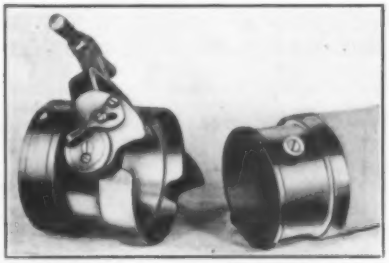

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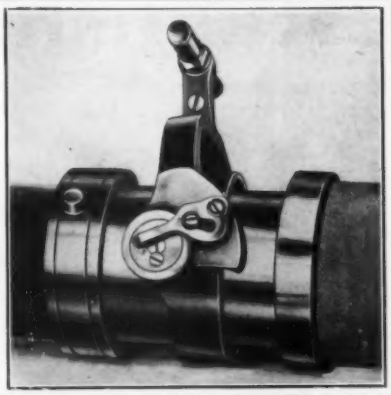
The National Standard Threadless Coupling is reliable because of its simplicity of construction and operation. Push the shift handle and you have a positive, leak-proof connection—Pull it for instant disconnection. Think what that speedy service means when a quick getaway spells safety for your men and apparatus. Constructed of bronze—Will outlast the apparatus—Cannot Leak, Freeze or Jam—Nothing to get out of order—Easily installed on any pumper—Solves all Hard Suction problems—Guaranteed and backed by five years fire-fighting service. Write for complete description.

**National Standard Threadless Coupling Corp.**

Threadless Couplings for Fire Engines, Oil Tanks and Trucks, Oilhose, etc.

Executive Office: 215-217 Beach 122nd Street, Rockaway Park, N. Y.



*The New and Improved Electric Siren for Fire Apparatus*

**SIRO-DRIFT**

A Siren that will operate on one-tenth of the battery juice of any other electric Siren of its size. The Siren drifts 90% of the time without the aid of the battery. You just touch the Siren button for one-half second and the Siren drifts on for two or three minutes.

One-half second of current, applied means ten seconds running without any current, with plenty of noise—or two to three minutes at a slower rate of speed.

SIRO-DRIFT TRADE MARK

*Greatest Electric Siren Ever Built for Fire Apparatus*

**SIRO-DRIFT**

Is 8 inches in diameter and gives the rising and lowering tones that carry the greatest distance. It can be heard through the thickest traffic for about two miles. Has a specially designed rotary that takes a great deal less power to drive than any other electric Siren.

We gladly ship a SIRO-DRIFT SIREN to any city on approval, transportation prepaid. Comes in three brackets —cross bar, on frame in front of radiator and under-the-hood.

*Send at once for complete information*

**B & M Siren Manufacturing Co.** LESTER H. MILES, *Owner* 929-931 South Main Street, Los Angeles, Calif.

## Triple Combinations

300-350 and 500 Gallons Capacity

Light and Heavy Hook and Ladder Trucks.
Miscellaneous Fire Fighting Equipment.
Fire Department Ladders.

*Write us when interested*

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*Quality Fire Apparatus*

300 to 1000 Gallon Triple Combination Pumpers, City Service Trucks, Combinations and Chemical Cars.

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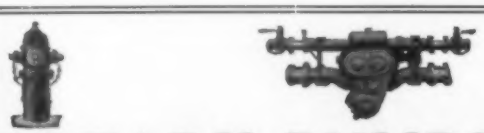


## ROTARY PUMPS FIRE HYDRANTS

Waterous

*Send for our Complete Catalog*

Agents in Principal Cities

**WATEROUS COMPANY**

St. Paul, Minnesota

## C. A. M.

*The Greatest of All Fire Apparatus Sirens*

Unconditionally Guaranteed

*See our page ad in last issue*

**C. A. M. Manufacturing Co.**

802 Humboldt Bank Bldg., San Francisco, Cal.

come in any sense a public record, before the various companies would furnish it. We are pledged, therefore, never to make practical use of the information, except in times of great public emergency, such as one of the great calamities I first mentioned in this paper.

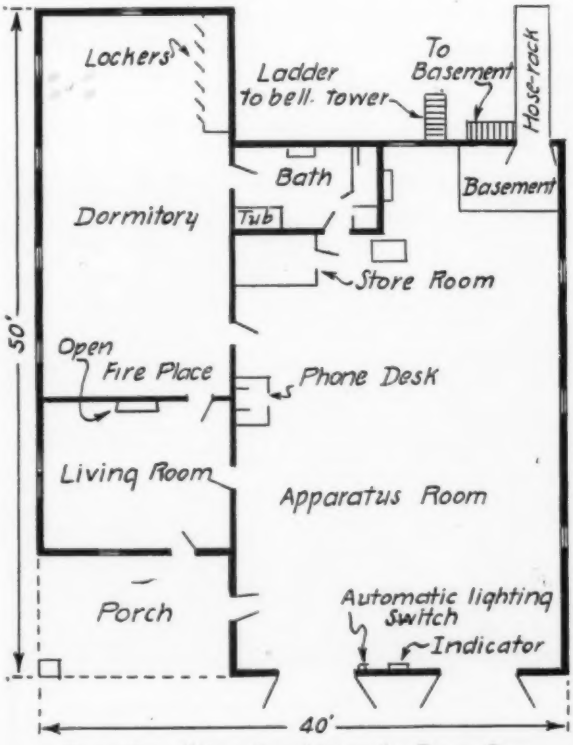
The preparedness program has been evolved by people of Los Angeles county prison camp were on the fire line battling against people of our own section of the state. I do not claim that the system is ideal for all cities and all conditions. All cities have their own problems to face in this respect. Our condition is different from yours climatically and geographically. We have our local problems and perhaps you have your own, which are equally troublesome. We do believe, however, that we have taken an important forward step, that we have made a real advance in the bridging of a gap in protective measures which hitherto have received but little attention.

### People Show Great Interest in Program

Our people have shown an unusual interest in this preparedness program, and I believe a most creditable interest. We are not advertising to the world the fact that we are expecting a disaster of some sort, but neither do we claim that our favored section is immune from every vagary of nature. We don't want any calamity to fall upon us, but we are better prepared to take care of ourselves now than we were a year ago. If the disaster must come, we are at least fairly well equipped to cope with it. Paraphrasing the immortal words of the great Patrick Henry, we may say that we do not court a catastrophe—we will do what we can to avoid it; but if it must fall upon us we may exclaim with him: "Let it come! I repeat it, sir, let it come!"

## Rome Has New Bungalow Stations

More and more, fire chiefs and architects throughout the country are demonstrating that a fire station can be made attractive as well as equipped to serve the needs of the company. And the construction cost for a station of this character is not more than necessary to erect a building of the other type. Rome,




Floor Plan of Bungalow Stations for Rome, Ga.

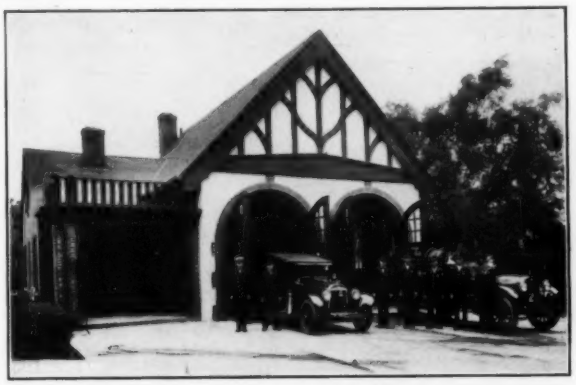
Ga., has just completed the erection of two bungalow fire stations at a cost of $15,000, and they are both beauty spots to the section.

In figuring the cost of the buildings, this included all the electrical work but not the fixtures, the plumbing work excluding the cost of the hot water tank and heater, and it does not include the cost of the Hale door openers with which the doors of the apparatus room are equipped.

The apparatus floor is made of concrete and the walls are left in the bare brick state. The roof of the station is made of gray composition shingles.

After the stations were erected, the grounds were graded and made attractive by landscape work.

The erection of the buildings was financed by a bond issue, and the work given to a local contractor. Chief H. L. Taylor



Outside of New Bungalow Stations at Rome, Ga.

is well pleased with the new stations, and noting the expressions of the men quartered there, they too are well satisfied.

## Ways to Regulate the Traffic

(*Continued from page 997*)

We want the man who comes here from any one of our New England states, in fact, from any state, to know that he is going to meet with the same style of regulation that he has left in his home state. If black and white is proper for directional traffic signs, let us all agree to use that. In our traffic signals for the movement and stopping of traffic, if red means "stop" and green mean "go" and amber means "caution" or "pedestrians," or if yellow and amber mean "pedestrians," let us all adopt these colors. If a siren horn warns of the approach of fire apparatus, let us have a standard, distinctive type of siren horn and not bells or whistles. If our automatic or synchronized lights show a rapidly blinking red light flashing on and off almost every second with a gong ringing on the same, indicating the approach of fire apparatus, let us all adopt that signal. If beacon flashlights, are placed at intersections of streets to divide traffic and cause proper right and left turns to be made, why should one city have a red flashing light, one city a green, and others an amber light? If amber is the color for caution and warning on these lights, let us adopt this color for this signal.

Wherever the automatic or progressive type of traffic signal lights are being used, provision should be made by the fire and police officials to establish routes to be taken in response to a fire alarm in order that such a system of lights can flash the warning of approach of apparatus from the central station regulating this system.

## Fight Fires Under Earth

George Lapp, chief of the fire department of the Anaconda Copper Mining Company holds the novel position as one of the few fire chiefs who are detailed to fight fires beneath the earth smouldering for thirty years—he can't hope to put them out, but he can and does keep them in check. His "deepest" fire was 3,800 feet below ground.

**Asheville, N. C., Has New Fire Station**—Eleven men have been added to the Asheville, N. C., department to take care of the new fire station which has been recently placed in service.

**Calexico, Cal., Passes Extinguisher Ordinance**—According to a new ordinance just passed in Calexico, Cal., fire extinguishers are equipped in apartment houses, hotels, restaurants and other places of business.

## FIRE EQUIPMENT MAKERS INVITED TO INSTITUTE MEETING SEPT. 27-28

**Important Meeting of Fire Equipment Manufacturers Institute to be Held at West Baden, Ind.—Chas. H. Meigs now Organization's Commissioner.**

ALL makers of fire fighting equipment are invited and urgently requested to attend the meeting of the Fire Equipment Manufacturers Institute, to be held at the West Baden Springs Hotel, West Baden, Ind., Sept. 27-8.

Action will be taken, it is expected on a new program of activity aiming toward the stabilization of the fire equipment industry. Ways and means of awakening the public to the importance of adequate fire protection is another important matter to be taken up.

Charles H. Meigs

Charles H. Meigs, recently appointed Commissioner of the Institute, is anxious to have as large an attendance as possible and extends an invitation to all manufacturers whether members of the institute or not. He asks that it be made clear, too, that the Institute's activities are not confined to extinguishers, but embrace the whole fire equipment field.

Mr. Meigs, who takes up the work formerly carried on by Dan Hunter of Cleveland, Ohio, is now devoting practically all his time to the Institute. He has been in the fire appartus game for more than twenty-five years and has best been known in recent years as the pioneer of the foam business, having been president of the original Foamite Firefoam Company from the time of its organization in 1914 until it consolidated with the O. J. Childs Company in 1922. Prior to that time he had been vice president of James Boyd & Bros. of Philadelphia, and president of the Kanawha Fire Engine Co. of Charleston, W. Va.

The offices of the Institute, where Mr. Meigs makes his headquarters, are located at 17 E. 49th St., New York City.

## Ex-Chief Fowler of Gardner, Dead

Ex-Chief Albert A. Fowler, who served six years as head of the fire department of Gardner, Mass., died at the Worcester Memorial Hospital on September 11, after an illness of two weeks. He retired last February because of poor health and was appointed to the board of assessors.

During his administration the fire service of Gardner was motorized and the two platoon system placed in operation. He had been a member of the department for 43 years.

He was born in Jacksonville, Vt., and when a child his parents took him to Hubbardston and later to Gardner, where he joined the fire force in 1883 when hand tubs were in use. He succeeded the late George S. Hodgman as chief in 1921. The surviving relatives are his wife, two sons, and two brothers.

HARRY BELKNAP.

## Plans Made for Fire Prevention Week

Various organizations and educational agencies are being marshalled together for a concentrated drive to call the public's attention to the importance of reducing the national fire loss. October 9 is the date of the great Chicago fire, and each year the week containing that day is set aside as Fire Prevention Week. This year the period set aside is October 9-15.

Those in charge of the program have prepared for every possible field of activity—literature, puzzles and a small playlet have been prepared for school children, copy has been sent out to the various newspapers with the request that the matter be given some publicity, posters, phamphlets and stickers have been printed, arrangements have been made with many broadcasting stations to have addresses sent out by way of the air, merchants have been encouraged to have special window displays and of course, the fire departments, will be leaders in the movement.

In some cities, the cooperation of the Boy Scouts have been secured so that stenciled fire prevention messages could be placed on the sidewalks. Slogans bearing on the week have been printed on the menu cards of many hotels and restaurants.

Last year, the chamber of commerce of Casper, Wyo., arranged a fire prevention debate among the school children, and pupils making the best five minute talks on this subject were awarded sweaters.

In Fond du Lac, Wis., each one of the schools was visited by a group of firemen and the time noted that was necessary for the school to be emptied after the fire drill signal was sounded. A lecture was then given to the students by some fire department official.

As a result of the fire prevention activities arranged last year in Ellensburg, Wash., by the chamber of commerce, the city purchased a new pumper. Each city or town had arranged some novel form for observing the week that was best suited to the needs of the community.

Material that will help in the proper observance of Fire Prevention Week may be obtained from the National Board of Fire Underwriters, 85 John Street, New York, N. Y. Those in charge of the program believe that the observance of the week this year will be even more effective than the programs of last year, and they expect that the results will be even more pronounced.

## Syracuse, N. Y., to Add Firemen

Contrary to the customary procedure, politics has been sidetracked by the mayor of Syracuse, N. Y., and new firemen will be appointed to mann the new fire stations recently completed. It has been the custom to withhold such appointments until after the election.

Political leaders would then have an opportunity to see just what men were working strenuously for the political faction then in power and would be able to see just who should be favored with appointments.

But the twenty-two firemen to be appointed will be named without any thought for the benefits that have been accorded to some political machine.

## Portland Scene of Happy Reunion

What a "grand and glorious feeling" it must be for seven friends who had not seen each other for twenty-seven years to suddenly meet again!

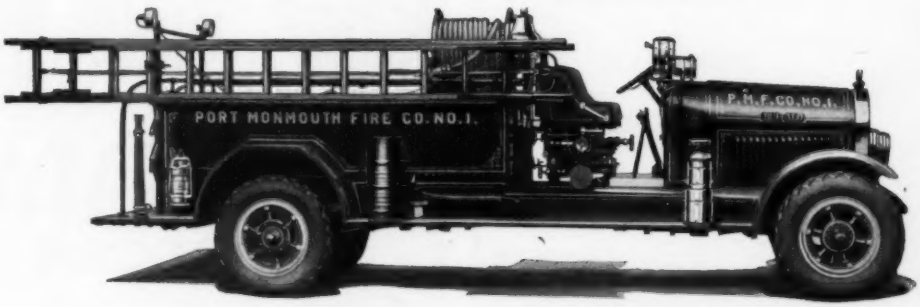
And so as successful as the I. A. F. C. convention in Portland, Ore., was from the association standpoint, it meant even more to seven old time members of the Milwaukee, Wis., fire department. In addition to what they brought back with them in ideas, these men have refreshed their memories about incidents that happened many years ago when the seven were working for a common interest.

**These Men Had a Grand Reunion in Portland, Ore**

Upper row, l. to r., William Streibel, master mechanic Milwaukee fire department; P. McCartin, chief Colorado Springs, Col.; Chief Peter Steinkellner, Milwaukee; D. Ruppert, retired Milwaukee fire department captain and residing in Portland.

Lower row, l. to r., C. R. Grisin, police inspector, Portland Police Bureau, H. Longstaff, patrolman, Portland Police Bureau; W. R. Trotter, chief Sheboygan, Wis.

# Buffalo Type 50

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*Write for Detailed Specifications*

**BUFFALO FIRE APPLIANCE CORP.**

44 Central Ave., Buffalo, N. Y.

# ALUMINUM
## Fire Alarm Boxes

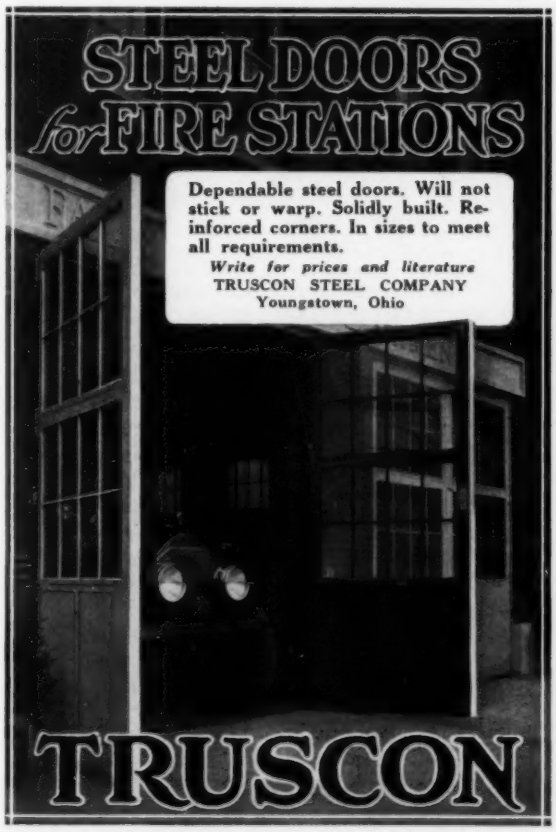
We were first to successfully use aluminum fire alarm cabinets—*now conceded everywhere to be the best.* They can not rust or corrode, are strong yet light in weight.

Adequate fire protection demands reliable fire alarm signal equipment. H-S fire alarm boxes can be absolutely depended upon to operate perfectly every time.

Made by specialists in the design and manufacture of fire alarm signal equipment. Write for bulletins.

**HARRINGTON-SEABERG CORP.,**
DEPT. G., MOLINE, ILLINOIS
Manufacturers
Traffic Signal Equipment Fire Alarm and Police Signal Equipment
Complete Signalling Equipment for Municipalities. Complete Installations.

# STEEL DOORS *for* FIRE STATIONS



Dependable steel doors. Will not stick or warp. Solidly built. Reinforced corners. In sizes to meet all requirements.

*Write for prices and literature*
TRUSCON STEEL COMPANY
Youngstown, Ohio

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# MATHEWS

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**FIRE HYDRANTS**

for

**DOMESTIC**

and

**HIGH PRESSURE**

**Service**

*NOTE—*

The positive waste value.

All operating threads are dry, being above the stuffing-box.

No toggles, no small, quick-wearing parts.

All moving parts are bronze or bronze-bushed.

The outside casing permits replacing a two-way standpipe with a steamer and two-way standpipe without digging up the ground.

An easily installed
EXTENSION SECTION
readily adapts them to new grades.

**VALVES and BOXES**
**CAST IRON PIPE**
*(Sand-Cast or "Sand-Spun")*
**FITTINGS**

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## BADGES

have been the recognized standard for fire departments for almost 50 years. Used everywhere. More than 900 designs. Send for illustrated catalog and prices.

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*of Every Description*

**QUALITY GUARANTEED**

***Right Prices***
***Prompt Delivery***

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**EVERSON-ROSS CO.**
**88 Chambers St., New York**
**Also makers of the ROSS Helmet**

# MAXIM FIRE APPARATUS

If your apparatus is Maxim-built it will prove dependable and reliable at all times.

***Complete information upon request.***

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*Metropolitan Sales Agents:*
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# YOUR LUNGS

**are important to you.**

You cannot burn or irritate them by smoke, gas or flame if you wear a

# DONTFEAR

**Smoke and Fume Respirator**

**Price $5. With airtight goggles and 5 extra canisters $7.50.**
***Send for descriptive catalogue.***

## Gibbs-Wahlert Mask Co.

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### A Word to Our Readers:

DO you ever stop to think that every advertiser in these pages offers either a **product** or a **service** that has certain unique advantages which he believes will interest and be of value to you? Otherwise it wouldn't be worth his while to advertise.

Almost every page contains the offer of some product or service that you would find of value in your department. It will pay you to read the advertising pages as carefully as you do the editorial.

"The wise man is he who is always willing to learn." It will pay you to read the advertising pages carefully. THE PUBLISHERS.

# PROPOSED IMPROVEMENTS

**Rockwood, Roane Co., Tenn.**—An American-LaFrance pumper was purchased for the fire department here at cost of $12,000.

**Tahoka, Lynn Co., Tex.**—Committee appointed by the City Council to make plans for the construction of a new fire station.

**Phoenix, Maricopa Co., Ariz.**—At recent election city voted in favor of a $65,000 bond issue for erection of fire station and the purchase of equipment.

**Nevada City, Nevada Co., Cal.**—Fire department asked City Trustees to improve fire department equipment.

**Brea, Orange Co., Calif.**—An election is to be held Sept. 28 to vote on a $60,000 bond issue, part of which is to be used for erection of a fire station.

**Long Beach, Los Angeles Co., Cal.**—Alamitos Bay District has petitioned Council to construct a fire station in the east end, and apparatus and equipment purchased for it.

**O'Fallon, St. Clair Co., Ill.**—New fire siren to be purchased for this town, according to reports.

**Jeffers, Cottonwood Co., Minn.**—Fire department organized here with Louis Sykora as chief.

**Brooklyn, N. Y.**—Gerrittsen Beach to petition City for the construction of a fire station.

**Risingsun, Wood Co., Ohio**—Plans are being made by the City for the purchase of new fire equipment for the local fire department.

**Fleetwood, Berks Co., Penn.**—Contract awarded for construction of the proposed new fire station.

**Hurffville (Mail Sewell), Gloucester Co., N. J.**—Funds being raised by the newly organized fire department for the purchase of fire apparatus.

**Richwood, Union Co., Ohio**—Bonds to the amount of $10,000 are to be issued for the purchase of new apparatus for the fire department.

**East Pittsburgh, Allegheny Co., Penn.**—Borough Council authorized the purchase of a new piece of apparatus for the fire department. Bids to be invited shortly.

**Woodburn, Marion Co., Ore.**—Fire department raising funds for the purchase of the proposed new fire apparatus. David Jackson, Chief of Fire Dept.

**Newport, Newport Co., R. I.**—Plans are being completed for the erection of the proposed new fire station. Joseph S. Lawton, Chief of Fire Dept.

**Brownsville, Cameron Co., Texas.**—Work has been started on two new fire sub-stations which are to be equipped with all new equipment.

**Sudlersville, Queen Anns Co., Md.**—Fire department is being organized here. New apparatus to be purchased.

**Randolph, Norfolk, Co., Mass.**—Fire department planning to raise funds for the purchase of new apparatus.

**Belding, Ionia Co., Mich.**—Michigan Inspection Bureau recommended the purchase of a city service truck for the fire department.

**Magnolia, Camden Co., N. J.**—Plans completed for the erection of a new fire station here.

**North Arlington, (Mail Arlington) Bergen Co., N. J.**—Schuyler Hose & Truck Co., raising funds for the purchase of coats and helmets.

**Thousand Island Park, Jefferson Co., N. Y.**—Plans are being considered for the purchase of apparatus for the fire department.

**Syracuse, Onondaga Co., N. Y.**—Construction of two new fire stations next year is planned.

**Boardman, (Mail Poland) Mahoning Co., Ohio.**—Boardman township purchased a Seagrave triple combination car for the township fire department.

**Lakewood, Cuyahoga Co., Ohio.**—City Council passed ordinance authorizing the voting on a $644,000 bond issue at the fall election. Part of this sum is to be used for fire department improvements.

**Sebastopol, Sonoma Co., Cal.**—A Seagrave 500 gal. pumper was recently purchased for the fire department, at cost of $6,750.

**Dania, Broward Co., Fla.**—City voted in favor of a $3,500 bond issue for fire alarm system.

**Ocala, Marion Co., Fla.**—City recently purchased 500 feet of fire hose from the Eureka Fire Hose Co. and 500 feet from the Fabric Fire Hose Co. S. W. Peck, Chief Fire Dept.

**Wheaton, Du Page Co., Ill.**—City Council considering the purchase of a pump to be placed on the fire truck here.

**Mount Vernon, Jefferson Co., Ill.**—City considering the purchase of a pumper and possibly a ladder truck for the fire department to lower the fire insurance rate.

**North Berwick, York Co., Maine.** New fire station to be erected here.

**Swickley, Allegheny Co., Penn.**—Fire Committee recommended the purchase of a new piece of apparatus for the fire department. Edward Ellerton, Chairman.

**Fairmont, Marion Co., W. Va.**—City Board of Directors purchased an American-LaFrance 500 gal. pumper for the fire department.

**Brinkley, Monroe Co., Ark.**—City voted in favor of a $12,000 bond issue for the purchase of a piece of fire apparatus and the erection of a fire station.

**Saunemin, Livingston Co., Ill.**—Plans being made for the organization of a fire department.

**Bedford, Lawrence Co., Ind.**—City Council recently purchased a 1,000 gal. pumper for the fire department.

**Kansas City, Jackson Co., Mo.**—City has acquired land on Locust Street between 5th & 6th Streets as a site for a new fire station. Alex. Henderson, Chief of Fire Dept.

**Little Ferry, Bergen Co., N. J.**—Reports state Borough Council is making plans for the installation of a new fire alarm system. Wm. Dare, Councilman.

**Cecilton, Cecil Co., Md.**—The newly organized fire company is raising funds for the purchase of apparatus, according to reports.

**Crystal, Montcalm Co., Mich.**—Village and township recently purchased a Peter Pirsch truck for the fire department.

**Birmingham, Oakland Co., Mich.**—Plans almost completed for the erection of the proposed new fire station.


## Salesman Wanted for Fire Apparatus

An experienced fire apparatus salesman for Metropolitan territory and New Jersey. State experience in full. Replies confidential. Our salesmen have been notified of this ad. Address Box 144, care of Fire Engineering, 225 W. 34th St., New York, N. Y.

9-21


## Philadelphia Has Fire Ambulance

Philadelphia has its first ambulance in the service of the Department of Public Safety. Dr. Hubley R. Owen, founder of the National Association of Police & Fire Surgeons and Medical Directors of Civil Service Commissions is the Chief Surgeon of the Department of Public Safety in the Quaker City, and not to be outdone by New York and Detroit, he recommended an ambulance.

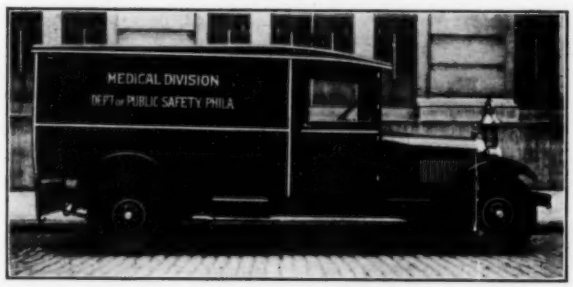
Thus far the ambulance has glorified itself with the following record for May, June and July:

MAY

| | |
|---|---|
| Alarms of fire | 14 |
| Cases to and from hospitals | 12 |
| Total | 26 |

JUNE

| | |
|---|---|
| Alarms of fire | 30 |
| Cases to and from hospitals | 9 |




Philadelphia's First Fire Department Ambulance

| | |
|---|---|
| Cases from Chief Surgeon's Office | 8 |
| Emergency calls | 2 |
| At Pleasant Hill Park Beach | 2 |
| Total | 51 |

JULY

| | |
|---|---|
| Alarms of fire | 17 |
| Cases to and from hospitals | 15 |
| Cases from Chief Surgeon's Office | 8 |
| At Pleasant Hills Park Beach | 11 |
| Emergency Calls | 4 |
| Total | 55 |

W. J. DALY.

## Pacific Coast Vice-Presidents Named

President Mark E. Ryan of the Pacific Coast Association of Fire Chiefs, has named the following vice-presidents for the coming year; Arizona, Chief W. D. Simmons, Phoenix; California, Chief Charles Otterson, Napa; Idaho, Chief W. A. Foster, Boise; Montana, Arthur Baker, Lewiston; New Mexico, Ex-chief E. F. Dunn, Tucumcari; Nevada, Chief Frank McDonnell, Tonopah; Oregon, Fire Marshal Clare Lee, Salem; Utah, Chief Walter Knight; Washington, Assistant State Fire Marshal, W. A. Groce; Wyoming, Ex-chief Percy S. Hoyt, Cheyenne; British Columbia, A. A. Macdonald, Vancouver; Mexico, J. Aguilar Robles, Mexicali.

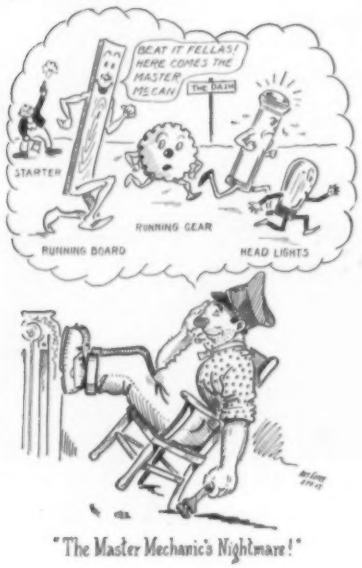
A new organization committee has been created and will hereafter be known as the "Technical Committee." The personnel of this new committee is; Robt. E. Andrews, National Board of Fire Underwriters, San Francisco; L. S. Bush, Board of Fire Underwriters of the Pacific, San Francisco; Edward L. Griffith, Los Angeles, M. R. Colwell, Phoenix, Ariz.; J. H. Roberts, Salt Lake City, Utah; D. S. Thomas, Butte, Mont.; R. C. Stevenson, Boise, Ida.; Chas. Brant, Spokane, Wash.; F. F. Dowling, Vancouver, B. C.; H. H. Botten, Seattle, Wash.; C. F. Wagner, Portland, Ore.

Chief Ryan plans to spend considerable part of his time in the field during his term of office.

His plan includes district meetings of fire chiefs at strategic points. In his statement, Chief Ryan says: "I have determined to spend much time in the field and during the coming year, will visit as many cities and towns in this jurisdiction as it is possible to make. This will mean a considerable amount of time away from home but this sacrifice I am willing to make in the interests of the profession and the great cause which gives our association life."

GUY C. MACDONALD

# FALSE ALARMS




"The Master Mechanic's Nightmare!"

## RESULT OF WAR

When a fire company operates on a cooperative basis, especially so if the meals are cooked in the station, it is necessary that the duties be distributed among the men and that the tasks be changed frequently.

A lieutenant who had not forgotten his military training shouted, "Here there fireman, you're going on kitchen police."

"Aw, can't I go on the inspection squad."

"No you can't," said the officer, "you were on the inspection squad yesterday. What do you expect to find—the guy who smothered the steak in onions?"

"No I wanna find out who called that stuff we had today, dinner."

## NOT WHAT IT MEANT

A fireman on inspection work in the theatre discovered one of the performers smoking. He approached the culprit wrathfully.

"Here, young fellow, you can't smoke back on the stage. If you want to smoke go outside in the alley."

"Well if I can't smoke in here, then what's the idea of putting up that sign?" asked the performer.

"What sign?"

"Why that sign 'Fine for Smoking.'"

## HE WENT TOO FAR

You know how women will gossip as they stand on either side of the fence that separates two houses.

As the conversation became real interesting one of the women said, "And I said to my John—I said to him, 'John, just because you are driving the fire department ambulance is no reason why you gotta pick up a lot of strange women.'"

## NOT MURDERERS

One family in an exclusive section of the town was so unfortunate as to have a fire. It was not much of a fire, but since smoke was seen coming from the frying pan in the kitchen, it was necessary for some firemen to go down to the cellar to investigate. Such things will happen.

Some children were near the cellar windows making mud pies. The boy being the braver of the two peered into the windows to see what the firemen were doing. Such things will happen.

So at the table that evening while the family were discussing the fire, the youngster asked, "Mother, are firemen murderers?"

"How odd," said the mother, "what makes you say such things?"

"Well mother, I heard one fireman say to another in the cellar, 'Let's kill the other two."

Strange. But such things will happen.

## MUSCULAR TALENT

Girls who live in the vicinity of fire stations have a fondness for the men in uniform. What with the moon, the stillness of a summer night and hero worship on the part of the girls, summer romances will start.

Two girls chanced to meet and the conversation soon turned to the boy-friends.

"Your fireman boy-friend has a lot of culture, hasn't he?"

"Yes, he has but it's all physical."

## CHANGE OF PROSPECT

Firemen have frequent contact with the medical men because of the hazardness of their calling. And so when there was not much doing at the station, the talk among the firemen drifted to doctors and accidents.

"Suppose Jim that a doctor told you that you had only one month to live. How would you spend your time?"

"Well Tom I'd spend the time looking for another doctor."

## GO WEST

There are certain sections of the country where the grape is still grown on a commercial basis, and where it is used for other purposes than making grape jelly. In a hospitable town, the captain of a fire company sometimes receives a number of little gifts from appreciative residents.

And so as the captain was reading his paper in the living room of his home, his son came from the kitchen where he had been studying.

"Father, what makes the world go 'round?"

"Look here, son," roared the officer, "how many times have I told you to keep out of the cellar."

## THEY KNEW HIM

The life of a volunteer fireman is sometimes far from the road to glory. He must be ready at all times to heed the call of the distressed.

But Bob at this particular moment was not ready. He was taking a bath. His brother knocked on the bath room door.

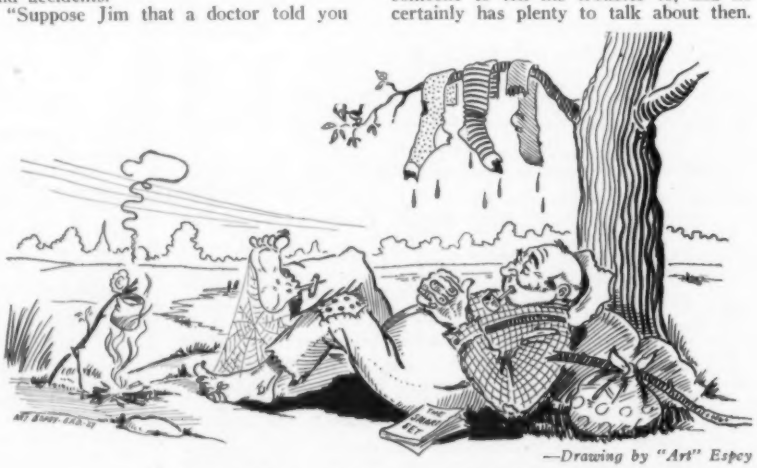
"Hey Bob, Smith called up and said his house was on fire."

"Tell him I'm taking a bath," said Bob.

"I did tell him that but he wouldn't believe me."

"Aw hell," said Bob, "I better get out and answer it myself—it must be somebody that knows me well."

A man sometimes marries so he'll have someone to tell his troubles to, and he certainly has plenty to talk about then.



—*Drawing by "Art" Espey*

**A New Idea in Fire Department Instruction**

Modern pedogogical ways of instruction are to use lots of illustrations. They work on the theory that a picture is worth a thousand words. Those who are studying for promotion examinations may find these pictures far more interesting than text books—and perhaps they will convey the idea better. For example, what could better illustrate the frequent firemen's term, "a bum hose layout!"

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## Why A.D.T. has protected since 1873

A. D. T. Protection Services have stood the test of time. Since 1873 they have been safeguarding property from fire destruction; and among the outstanding reasons for A. D. T. Supremacy are:

1. Constant Supervision—the most important element for proper operation of any protection system.
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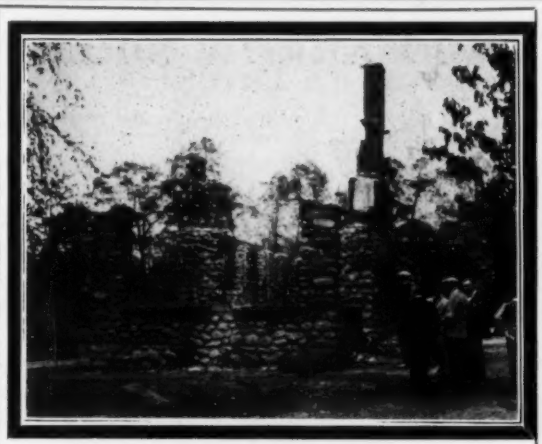
# UNION

Water Meters - Chronometer Valves
Easy Turning Stops - Pressure Regulators
Presses for Lining Pipe - Alarm Signals



## A Chimney Fire Did It!

**The Remains of a Once Palatial Residence**

Without warning, this chimney fire came. A rush of flame through the whole building spreading death and disaster—no fire protection available—the result was inevitable.

Tragic, isn't it?

Yes, it is tragic. It happens hundreds and even thousands of times each year.

## You May Be Next!

**What Causes Chimney Fires?**

The accumulation of soot and carbon deposits in stoves, flues, fireplaces and chimneys cause chimney fires. Such deposits are a constant menace.

## Ask Any Fire Chief

**Don't Gamble With Life and Property**

Remove this fire hazard before it brings disaster, like that pictured above, to *your* property.

It is a simple matter *NOW*. KILSOOT will clean up those danger spots quickly and efficiently.

No muss. No fuss. No need for the trouble and expense of mechanical devices or manual labor.

But if a neglected chimney does catch fire, just toss a package of

KilSoot

into stove, heater or fireplace and the vapors almost instantly formed, puts out the fire before ladders can be raised.

CHIEFS: We want to send you liberal samples of KILSOOT so you may confidently back up our advertising to the public.

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## RED ARROW SIREN

Siren with Storm Hood

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2. Ball bearings throughout.
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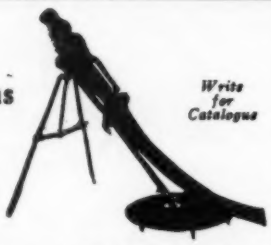
DECOT MACHINE WORKS
Sauk City, Wis.

## Eastman Improved Platforms and Holders



*Write for Catalogue*

are indispensable where high pressure service is required. With Eastman equipment any size streams can be easily handled by one man.

## Eastman Nozzles and Deluge Sets

are designed by engineers who for over thirty years have specialized in equipment for producing fire-fighting streams that are unsurpassed for solidarity, distance and effectiveness.

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**FIREMEN'S UNIFORMS**

Thoroughly tailored of especially selected fabrics. Uniforms that look well, wear well and that will give entirely satisfactory service.

Reed's Uniforms are most economical because they represent full value for the amount expended.

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**The made to measure and to fit**

**"Famous Kalamazoo" Firemen's Uniforms**

Wear Longer and Look Better—but Cost no More.

Try one and you will always wear them.

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# HAHN

**Motor Fire Apparatus**

Write for literature and prices on our 250, 350, 500 and 750-gallon triple combinations, chemical and hose combinations and city service trucks.

**Hahn Motor Truck Co.,**
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LONGER effective life, higher efficiency and greater freedom from trouble may be had by using Hale Dreadnaught Fire Pumps.

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Conshohocken, Pa.

## LARKIN Shut-off Nozzles

**Over 2000 Fire Departments**

have 15,000 Larkin Shut-off Nozzles in service. They have a successful record that is not exceeded by any article used in the fire service. Specify and insist upon them in buying new apparatus.

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***High Grade Fire Dept. Supplies of All Kinds***

## When in the Market for New Equipment

please write us and we shall be glad to have the right manufacturers provide you with complete specifications and prices for your consideration. This service won't cost a cent nor place you under any obligation whatever. We just want to cooperate both with you and with manufacturers in every possible way.

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PROVE *their value*

Chief Zumwatt of Pierre, S. D., says "Two years ago we purchased fifteen of your No. 101 12 x 18 'Shuredry' salvage covers and am pleased to say they are very satisfactory covers.

"They will not crack at the folds or become tacky when stored on the apparatus for long periods of time, are water tight and require very little attention, which make them most desirable for volunteer fire department service.

"I would recommend them to any chief."

***Cost Less—Weigh Less—More Easily Handled***

One man can easily carry four "Shuredry" covers up a ladder at one time. "Shuredry" covers will not freeze, nor are they subject to spontaneous combustion. They come in standard sizes. Our nearest plant will gladly send samples and prices. WRITE. . . .

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**The Standard for the Fire Fighters of America**

The Burrell All Service Gas Mask is the only mask approved by the United States Government for complete protection against Carbon Monoxide, Ammonia and every known poisonous gas. Write for Bulletin F-3.

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Are made of strong, heavy duck and lapped seams and are designed of such thickness and weight as to be light enough to be handled quickly and rigid enough for the most strenuous service. They are rubberized on both sides with a double coating of a high grade, long life, rubber compound.

CLIFTON SALVAGE COVERS are built to stand the heaviest abuse and are used by many of the large Protective Departments.

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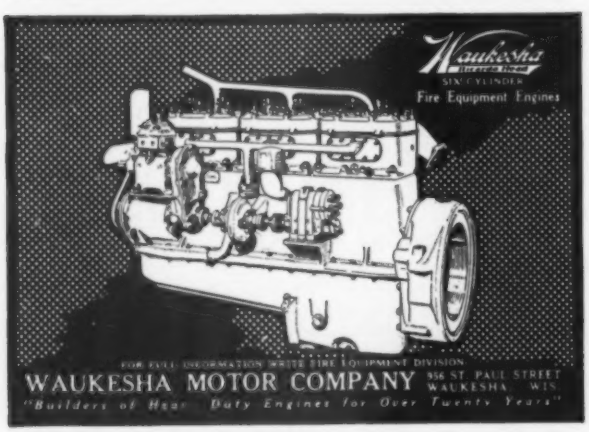
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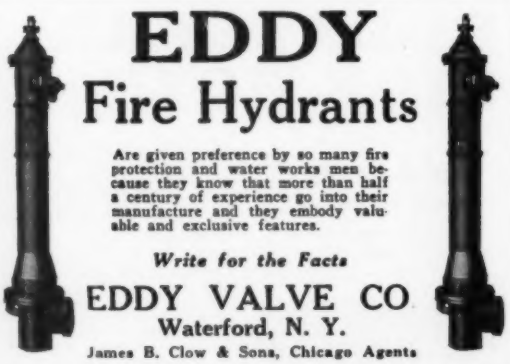
**Fire Hydrants**



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14 Battery Zincs for Fire Alarm Batteries.
15 Bells, Fire Alarm, Municipal.
16 Body Equipments.
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18 Brakes, Air.
19 Brake Linings.
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47 Flashlights, Hand.
48 Foam Liquid for Extinguishers.
49 Gas Masks and Respirators.
50 Gas & Smoke Helmets.
51 Gasoline & Oil Handling Equipment.
52 Goggles, Firemen's.
53 Helmets, Metal, etc.
54 Hose Carts, Reels & Racks.

**This page is here to make it convenient for you to get complete specifications and prices from the leading manufacturers of the country of fire equipment and supplies of all kinds without cost to you and without any obligation.**

**To get this information just run down the list below and mail the coupon to us filled out with name and address and with the numbers that indicate the equipment in which you are particularly interested.**

**We will then notify reliable manufacturers of such equipment of your interest and request that they send you complete information. They will gladly do this and it will be a pleasure for us to help you in this way. So go to it! Help yourself.**

***For Information on Any Equipment Not Listed, Write on This Page or Use Separate Sheet.***

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56 Hose Fire.
57 Hose, Chemical.
58 Hose Holders.
59 Hose Jackets.
60 Hose Standardization Tools.
61 Hydrant Draining Pumps.
62 Hydrants, Fire.
63 Jacks for Fire Trucks.
64 Jacks, Shoring & Prying.
65 Ladders, Fire.
66 Lightning Arresters.
67 Motorcycles, Fire Dept. Equipped.
68 Nets, Life.
69 Nozzles, Pipes & Misc. Brass Goods.
70 Packings, Pumps.
71 Pads, Pole Hole.
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76 Pumps, Fire Apparatus.
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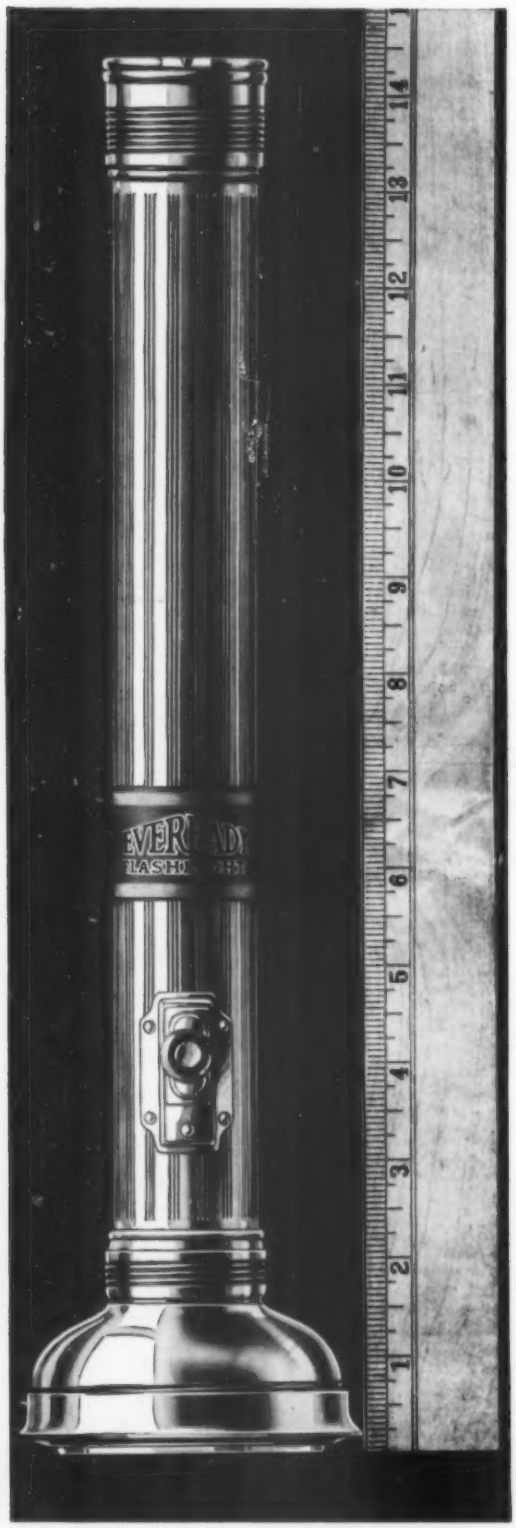

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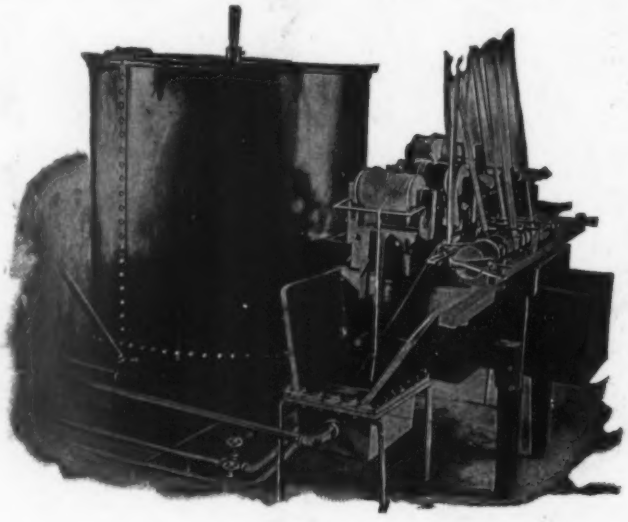

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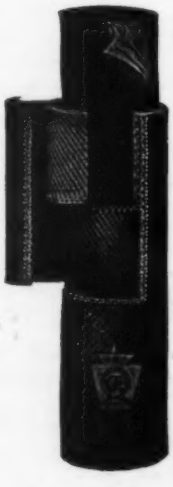

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